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TRAVELS

INTO

NORTH AMERICA;

CONTAINING

Its NATURAL HISTORY, AND

A circumſtantial Account of its Plantations and Agriculture in general,

WITH THE

CIVIL, ECCLESIASTICAL AND COMMERCIAL STATE OF THE COUNTRY,

The MANNERS of the INHABITANTS, and ſeveral curious and IMPORTANT REMARKS on various ſubjects.

BY PETER KALM,

Profeſſor of Oeconomy in the Univerſity of *Aobo* in Swediſh *Finland*, and Member of the *Swediſh* Royal Academy of Sciences.

TRANSLATED INTO ENGLISH

BY JOHN REINHOLD FORSTER, F. A. S.

Enriched with a Map, ſeveral Cuts for the Illuſtration of Natural Hiſtory, and ſome additional Notes.

THE SECOND EDITION.

IN TWO VOLUMES,

VOL. II.

LONDON,

Printed for T. LOWNDES, N° 77, in Fleet-ſtreet. 1772.

PREFACE

OF THE

EDITOR.

I COULD have left this volume without preface, was it not for ſome circumſtances which I am going to mention.

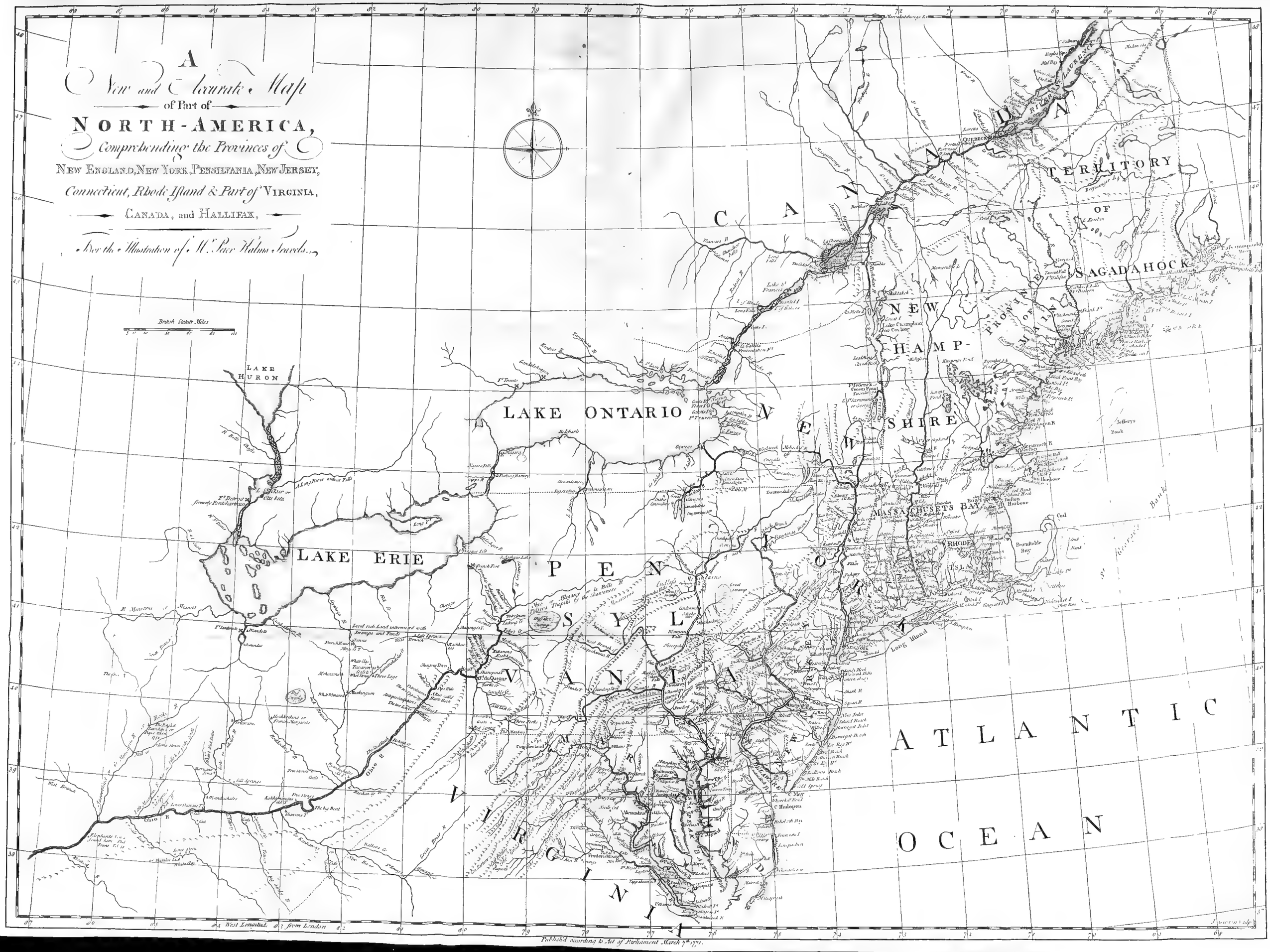
THE author of this account of *North-America* is a *Swede*, and therefore ſeems always to ſhew a peculiar way of thinking in regard to the *Engliſh* in general, and in regard to the firſt proprietors and inhabitants of *Philadelphia* in particular. The *French*, the natural enemies of the *Engliſh*, have, for upwards of a century, been the allies of the *Swedes*, who therefore are in general more fond of them than of the *Engliſh*. The external politeneſs of the *French* in *Canada* fully captivated our author, prejudiced him in their favour, and alienated his mind, though unjuſtly, from the *Engliſh*. I have therefore now and then, in remarks, been obliged to do the *Engliſh* juſtice, eſpecially when I ſaw the author carried away either by prejudice or miſinformation. He paſſed almoſt all the winter, between 1748 and 1749, at *Raccoon*, and converſed there with his countrymen; when he came to *Philadelphia* he likewiſe was in the company of the *Swedes* ſettled there; theſe, no doubt, furniſhed him with many partial and diſingenuous accounts of the *Engliſh*, and gave his mind that unfavourable biaſs which he ſo often diſplays

in prejudice of a nation, now at the head of the enlightened world, in regard to every religious, moral, and ſocial virtue. The author frequently ſeems to throw an illiberal reflection on the firſt proprietors of *Penſylvania*, and the quakers; tho' they got that province not by force, but by a charter from the *Engliſh* government, to whom the *Swedes* gave it up by virtue of a public treaty. Prompted by ſuch falſe inſinuations of his countrymen, he likewiſe enters very minutely into the circumſtances of the *Swedes*, and often omits more important points, relative to the legiſlator and father of *Penſylvania*, *William Penn*, who gave that province exiſtence, laws, and reputation.

THE author, however, often does juſtice to the excellent conſtitution of *Penſylvania*, as may be ſeen in Vol. I. But when he ſpeaks of *ſtones attracting the moiſture of the air*, ſee Vol. I. this is ſomewhat unphiloſophically expreſſed. No ſtone attracts the moiſture of the air, unleſs impregnated with ſaline particles; however, when the ſtones are colder than the atmoſphere, they then condenſe the moiſture of the air on their ſurface: the porous ſtones abſorb it immediately, but thoſe of a more ſolid texture, as marbles, *&c.* keep it on their ſurface till it evaporates.

I HERE take the opportunity of returning my humble thanks to my friends, who have generouſly promoted this publication; as without this public manner of acknowledging their favours, I would think myſelf guilty of ingratitude, which, in my opinion, is one of the moſt deteſtable vices.

London,
Feb. the 15th. 1771.


A
New and Accurate Map
of Part of
NORTH-AMERICA,
Comprehending the Provinces of
NEW ENGLAND, NEW YORK, PENSILVANIA, NEW JERSEY,
Connecticut, Rhode Island & Part of VIRGINIA,
CANADA, and HALLIFAX,
For the Illustration of Mr. Peter Kalms Travels.
British Statute Miles
LAKE HURON
LAKE ONTARIO
LAKE ERIE
CANADA
TERRITORY OF SAGADAHOCK
PROVINCE OF MAIN
NEW HAMPSHIRE
NEW YORK
PENSYLVANIA
VIRGINIA
MASSACHUSETS BAY
RHODE ISLAND
ATLANTIC OCEAN
Long Island
Ohio R
West Longitude from London
Published according to Act of Parliament March 7th 1771.

PETER KALM's TRAVELS.

April the 12th, 1749.

THIS morning I went to *Philadelphia* and the places adjacent, in order to know whether there were more plants lately ſprung up, than at *Raccoon*, and in *New Jerſey* in general. The wet weather which had happened the preceding days, had made the roads very bad in low and clayey places.

THE leaves which dropt laſt autumn had covered the ground, in depth three or four inches. As this ſeems to hinder the growth of the graſs, it was cuſtomary to burn it in *March*, or at the end of that month, (according to the old ſtile) in order to give the graſs the liberty of growing up. I found ſeveral ſpots burnt in this manner to-day; but if it be uſeful one way, it does a great deal of damage in another; all the young ſhoots of ſeveral trees were burnt with the dead leaves, which diminiſhes the woods conſiderably; and in ſuch places where the dead leaves had been burnt for ſeveral years together, the old trees were only left, which being cut down, there remains nothing but a great field, without

any wood. At the ſame time, all ſorts of trees and plants are conſumed by the fire, or at leaſt deprived of their power of budding; a great number of plants, and moſt of the graſſes here, are annual; their ſeeds fall between the leaves, and by that means are burnt: this is another cauſe of univerſal complaint, that graſs is much ſcarcer at preſent in the woods than it was formerly; a great number of dry and hollow trees are burnt at the ſame time, though they could ſerve as fewel in the houſes, and by that means ſpare part of the foreſts. The upper mould likewiſe burns away in part by that means, not to mention ſeveral other inconveniencies with which this burning of the dead leaves is attended. To this purpoſe, the government of *Penſylvania* have lately publiſhed an edict, which prohibits this burning; nevertheleſs every one did as he pleaſed, and this prohibition met with a general cenſure.

THERE were vaſt numbers of *Woodlice* in the woods about this time; they are a very diſagreeable inſect; for as ſoon as a perſon ſits down on an old ſtump of a tree, or on a tree which is cut down, or on the ground itſelf, a whole army of *Woodlice* creep upon his clothes, and inſenſibly come upon the naked body.

I HAD a piece of petrified wood given me today, which was found deep in the ground at *Raccoon*. In this wood the fibres and inward rings appeared very plainly; it ſeemed to be a piece of hiccory; for it was as like it, in every reſpect, as if it had but juſt been cut from a hiccory tree.

I LIKE-

I LIKEWISE got ſome ſhells to-day, which the *Engliſh* commonly call *Clams*, and whereof the *Indians* make their ornaments and money, which I ſhall take an opportunity of ſpeaking of in the ſequel. Theſe *Clams* were not freſh, but ſuch as are every where found in *New Jerſey*, on digging deep into the ground; the live ſhells of this kind are only found in ſalt water, and on the ſea coaſts. But theſe *Clams* were found at *Raccoon*, about eight or nine *Engliſh* miles from the river *Delaware*, and near a hundred from the neareſt ſea-ſhore.

AT night I went to Mr. *Bartram*'s ſeat.

Ap. 13th. I EMPLOYED this day in ſeveral obſervations relative to botany.

Two neſts of waſps hung in a high maple-tree, over a brook. Their form was wholly the ſame with that of our waſp-neſts, but they exceeded them in ſize. Each neſt was ten inches in diameter; in each neſt were three cakes, above one another, of which the lowermoſt was the biggeſt, and the two uppermoſt decreaſed in proportion: there were ſome eggs of waſps in them. The diameter of the loweſt cake was about ſix inches, and one quarter, and that of the uppermoſt, three inches, and three quarters. The cells in which the eggs, or the young ones were depoſited, were hexagonal, and the colour of the neſt grey. I was told, that the waſps make this kind of neſts out of the grey ſplints, which ſtick to old pales and walls. A dark brown bee, with black *antennæ*, and two black rings on the belly, and purple wings, flew

about the trees, and might perhaps be an inhabitant of theſe neſts.

ANOTHER kind of waſps, which are larger than theſe, make their neſts quite open. It conſiſts merely of one cake, which has no covering, and is made of the boughs of trees. The cells are horizontal, and when the eggs or young *larvæ* ly in them, they have lids or coverings, that the rain may not come into them. But whither the old waſps retreat during ſtorms, is a myſtery to me, except they creep into the crevices of rocks. That ſide of the cake which is uppermoſt is covered with ſome oily particles, ſo that the rain cannot penetrate. The cells are hexagonal, from five to ſeven lines deep, and two lines in diameter. Mr. *Bartram* obſerved, that theſe neſts are built of two ſorts of materials, viz. the ſplints which are found upon old pales, or fences, and which the wind ſeparates from them; for the waſps have often been obſerved to ſit on ſuch old wood, and to gnaw away theſe ſplints; the ſides, and the lid or cover of the cells are made of an animal ſubſtance, or glutinous matter, thrown up by the waſps, or prepared in their mouths; for when this ſubſtance is thrown into the fire, it does not burn, but is only ſinged, like hair or horn. But the bottom of the neſt being put into the fire, burns, like linen or half-rotten wood, and leaves a ſmell of burnt wood. The waſps, whoſe neſts I have now deſcribed, have three elevated black ſhining points on the forehead *, and a pentagonal

* Theſe three points are common to moſt inſects, and ought therefore not to be made characteriſtics of any particular ſpecies. They

black ſpot on the thorax. Towards the end of autumn theſe waſps creep into the cavities of mountains, where they ly torpid during winter. In ſpring, when the ſun begins to operate, they come out during day-time, but return towards night, when it grows cold. I ſaw them early in ſpring during ſunſhine, in and about ſome cavities in the mountains. I was told of another ſpecies of waſps, which make their neſts under ground.

GYRINUS *natator (Americanus)*, or the *Whirl-beetles*. Theſe were found dancing in great numbers on the ſurface of the waters.

Ap. 14th. THIS morning I went down to *Cheſter;* in ſeveral places on the road are ſaw-mills; but thoſe which I ſaw to-day had no more than one ſaw. I likewiſe perceived that the woods and foreſts of theſe parts had been very roughly treated. It is cuſtomary here, when they erect ſaw-mills, wind-mills, or iron-works, to lead the water a good way lower, in caſe the ground near a fall in the river is not convenient for building upon.

Ap. 16th. THIS morning I returned to *Raccoon*. This country has ſeveral kinds of *Swallows*, viz. ſuch as live in barns, in chimneys, and under ground; there are likewiſe martens.

THE *Barn Swallows*, or *Houſe Swallows*, are thoſe with a furcated tail. They are *Linnæus's Hirundo ruſtica*. I found them in all the parts of *North America* which I travelled over. They

They are called *Stemmata*, and are a kind of eyes which ſerve the inſects for looking at diſtant objects, as the compound eyes do for objects near at hand. F.

correſpond very nearly to the *European Houſe-Swallow* in regard to their colour, however, there ſeems to be a ſmall difference in the note. I took no notice this year when they arrived: but the following year, 1750, I obſerved them for the firſt time, on the 10th of *April* (new ſtyle); the next day in the morning, I ſaw great numbers of them ſitting on poſts and planks, and they were as wet as if they had been juſt come out of the ſea*. They build their neſts in

* It has been a ſubject of conteſt among naturaliſts, to determine the winter retreat of *Swallows*. Some think, they go to warmer climates when they diſappear in the Northern countries: others ſay, they creep into hollow trees, and holes in clefts of rocks, and ly there all the winter in a torpid ſtate: and others affirm, that they take their retreat into water, and revive again in ſpring. The two firſt opinions have been proved, and it ſeems have found credit; the laſt have been treated as ridiculous, and almoſt as an old woman's tale. Natural hiſtory, as all the other hiſtories, depends not always upon the intrinſic degree of probability, but upon facts founded on the teſtimony of people of noted veracity. —*Swallows* are ſeldom ſeen ſinking down into the water; *Swallows* have not ſuch organs as frogs or lizards, which are torpid during winter, *ergo*, *Swallows* live not, and cannot live under water.—This way of arguing, I believe, would carry us, in a great many caſes, too far; for tho' it is not clear to every one, it may however be true; and lizards and frogs are animals of a claſs widely different from that of birds, and muſt therefore of courſe have a different ſtructure; hence it is they are claſſed ſeparately. The bear and the marmot are in winter in a torpid ſtate, and have however not ſuch organs as lizards and frogs; and no body doubts of their being, during ſome time, in the moſt rigid climates in a torpid ſtate; for the *Alpine* nations hunt the marmots frequently, by digging their holes up, and find them ſo torpid, that they cut their throats, without their reviving or giving the leaſt ſign of life during the operation; but when the torpid marmot is brought into a warm room and placed before the fire, it revives from its lethargy. The queſtion muſt therefore be decided by facts; nor are they wanting here; Dr. *Wallerius*, the celebrated *Swediſh* chemiſt, wrote in 1748, *September* the 6th O. S. to the late Mr. *Klein*, ſecretary to the city of *Dantzick*: "That he has ſeen, more than once, *Swallows* aſſembling on a reed, till they were all immerſed and went to the bottom; this being preceded by a dirge of a quarter of an hour's

houſes, and under the roofs on the outſide; I likewiſe found their neſts built on mountains

hour's length. He atteſts likewiſe, that he had ſeen a *Swallow* caught during winter out of a lake with a net, drawn, as is common in Northern countries, under the ice: this bird was brought into a warm room, revived, fluttered about, and ſoon after died."

Mr. *Klein* applied to many *Fermiers generaux* of the King of *Pruſſia*'s domains, who had great lakes in their diſtricts, the fiſhery in them being a part of the revenue; in winter the fiſhery thereon is the moſt conſiderable under the ice, with nets ſpreading more than 200 or 300 fathoms, and they are often wound by ſcrews and engines, on account of their weight. All the people queſtioned made affidavits upon oath before the magiſtrates. *Firſt*, The mother of the Counteſs *Lehndorf* ſaid, that ſhe had ſeen a bundle of *Swallows* brought from the *Friſh-Haff* (a lake communicating with the *Baltic* at *Pillau*) which when brought into a moderately warm room, revived and fluttered about. *Secondly*, Count *Schlieben* gave an inſtrument on ſtamped paper, importing, that by fiſhing on the lake belonging to his eſtate of *Gerdauen* in winter, he ſaw ſeveral *Swallows* caught in the net, one of which he took up with his hand, brought it into a warm room, where it lay about an hour, when it began to ſtir, and half an hour after it flew about in the room. *Thirdly*, Fermier general (*Amtman*) *Witkowſki* made affidavit, that in the year 1740, three *Swallows* were brought up with the net in the great pond at *Didlacken*; in the year 1741, he got two *Swallows* from another part of the pond, and took them home, (they all being caught in his preſence); after an hour's ſpace they revived all in a warm room, fluttered about, and died three hours after. *4thly*, *Amtman Bönke* ſays, that having had the eſtate *Kleſkow* in farm, he had ſeen nine *Swallows* brought up in the net from under the ice, all which he took into a warm room, where he diſtinctly obſerved how they gradually revived; but a few hours after they all died. Another time his people got likewiſe ſome *Swallows* in a net, but he ordered them again to be thrown into the water. *5thly*, *Andrew Rutta*, a maſter fiſherman, at *Oletſko*, made affidavit, 1747, that 22 years ago, two *Swallows* were taken up, by him, in a net, under the ice, and being brought into a warm room, they flew about. *6thly*, *Jacob Koſiulo*, a maſter fiſherman, at *Stradauen*, made affidavit, that in 1736, he brought up in winter, in a net, from under the ice of the lake at *Raſki*, a ſeemingly dead *Swallow*, which revived in half an hour's time, in a warm room, and he ſaw, a quarter of an hour after, the bird grow weaker, and ſoon after dying. *7thly*, I can reckon myſelf among the eye-witneſſes of this *paradoxon* of natural hiſtory. In the year 1735, being a little boy, I ſaw ſeveral *Swallows* brought in winter by fiſhermen,

and rocks whose top projected beyond the bottom; they build too under the corners of per-

from the river *Vistula*, to my father's house, where two of them were brought into a warm room, revived, and flew about. I saw them several times settling on the warm stove, (which the *Northern* nations have in their rooms) and I recollect well that the same forenoon they died, and I had them, when dead, in my hand.

In the year 1754, after the death of my uncle *Godefroy Wolf*, captain in the *Polish* regiment of foot-guards; being myself one of his heirs, I administered for my co-heirs, several estates called the *Starosty*, of *Dirschau*, in *Polish Prussia*, which my late uncle farmed under the king. In *January* the lake of *Lybschau*, belonging to these estates, being covered with ice, I ordered the fishermen to fish therein, and in my presence several *Swallows* were taken; which the fishermen threw in again; but one I took up myself, brought it home, which was five miles from thence, and it revived, but died about an hour after its reviving. These are facts, attested by people of the highest quality, by some in public offices, and by others, who, though of a low rank, however made these affidavits upon oath. It is impossible to suppose indiscriminately that they were prompted by views of interest, to assert as a fact, a thing which had no truth in it. It is therefore highly probable, or rather incontestably true, that *Swallows* retire in the *Northern* countries during winter, into the water, and stay there in a torpid state, till the return of warmth revives them again in spring. The question therefore I believe ought for the future to be thus stated: The swallows in *Spain*, *Italy*, *France*, and perhaps some from *England*, remove to warmer climates; some *English* ones, and some in *Germany* and other mild countries, retire into clefts and holes in rocks, and remain there in a torpid state. In the colder northern countries the *Swallows* immerse in the sea, in lakes, and rivers, and remain in a torpid state, under ice, during winter. There are still some objections to this latter assertion, which we must remove. It is said, Why do not rapacious fish, and aquatic quadrupeds and birds, devour these *Swallows?* The answer is obvious. *Swallows* chuse only such places in the water for their winter retreat, as are near reeds and rushes; so that sinking down there between them and their roots, they are by them secured against the rapaciousness of their enemies. But others object, Why are not these birds caught in such waters as are continually harrassed by nets? I believe the same answer which has been made to the first objection, will serve for this likewise. Fishermen take care to keep off with their nets from places filled with reeds and rushes, for fear of entangling and tearing their nets; and thus the situation of *Swallows* under water, is the reason that they are seldom disturbed in their silent winter-retreats.

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pendicular rocks; and this ſhews where the *Swallows* made their neſts, before the *Europeans* ſettled and built houſes here: for it is well known that the huts of the *Indians* could not ſerve the purpoſe of the *Swallows*. A very creditable lady and her children told me the following ſtory, aſſuring me that they were eye-witneſſes to it. A couple of *Swallows* built their neſt in the ſtable belonging to the lady; the female *Swallow* ſat upon the neſt, laid eggs in it, and was about to brood them; ſome days after, the people ſaw the female ſtill ſitting on the eggs: but the male flying about the neſt, and ſometimes ſettling on a nail, was heard to utter

What confirms this opinion ſtill more is, that *Swallows* were never caught in *Pruſſia*, according to the above-mentioned affidavits, but with thoſe parts of the net which paſſed near to the reeds and ruſhes; and ſometimes the *Swallows* were yet faſtened with their feet to a reed, when they were drawn up by the net. As to the argument taken from their being ſo long under water without corruption, I believe, there is a real difference between animals ſuffocated in water, and animals being torpid therein. We have examples of things being a long time under water; to which we may add the intenſe cold of theſe northern regions, which preſerves them. Who would have thought it, that ſnails and polypes may be diſſected, and could reproduce the parts ſevered from their body, if it was not a fact? Natural hiſtory ought to be ſtudied as a collection of facts; not as the hiſtory of our gueſſes or opinions. Nature varies in an infinite manner; and Providence has diverſified the inſtinct of animals, and their œconomy, and adapted it to the various ſeaſons and climates. This long digreſſion I thought neceſſary and excuſable; and the more ſo, as the ingenious great friends to the cauſe of Natural Hiſtory, the late Mr. *Collinſon* and Mr. *Pennant*, have both aſſerted the impoſſibility and improbability of this immerſion. I revere the memory and the aſhes of the one, and think the friendſhip of the other an honour to me; but am aſſured, that both prefer truth to their private opinion; and can bear a modeſt oppoſition, when it is propoſed with candour, with a view to promote truth, and with ſentiments of reſpect and gratitude, as it is done by me, in the preſent caſe. F.

a very

a very plaintive note, which betrayed his uneaſineſs: on a nearer examination the cauſe appeared; for the female was found dead in the neſt. The male then went to ſit upon the eggs, but after being about two hours on them, and thinking the buſineſs too troubleſome for him, he went out, and returned in the afternoon with another female, which ſat upon the eggs, and afterwards fed the young ones, till they were able to provide for themſelves. The people differed here in their opinions about the abode of *Swallows* in winter: moſt of the *Swedes* thought that they lay at the bottom of the ſea; ſome, with the *Engliſh* and the *French* in *Canada*, thought that they migrate to the ſouthward in autumn, and return in ſpring. I have likewiſe been credibly informed in *Albany*, that they have been found ſleeping in deep holes and clefts of rocks, during winter.

THE *Chimney Swallows* are the ſecond ſpecies, and they derive their name from building their neſts in chimneys, which are not made uſe of in ſummer: ſometimes when the fire is not very great, they do not mind the ſmoke, and remain in the chimney. I did not ſee them this year till late in *May*, but in the enſuing year, 1750, they arrived on the 3d of *May*, for they appear much later than the other *Swallows*. It is remarkable that each feather in their tail ends in a ſtiff ſharp point, like the end of an awl; they apply the tail to the ſide of the wall in the chimneys, hold themſelves with their feet, and the ſtiff tail ſerves to keep them up: they make a great thundering noiſe all the day long, by flying

flying up and down in the chimneys; and as they build their neſts in chimneys only, and it is well known that the *Indians* have not ſo much as a hearth made of maſonry, much leſs a chimney, but make their fires on the ground in their huts, it is an obvious queſtion, Where did theſe *Swallows* build their neſts before the *Europeans* came, and made houſes with chimneys? It is probable that they formerly made them in great hollow trees. This opinion was adopted by Mr. *Bartram*, and many others here. *Cateſby* has deſcribed the *Chimney Swallow* and figured it *, and Dr. *Linnæus* calls it *Hirundo Pelaſgia*.

THE *Ground Swallows* or *Sand Martins*, (*Linnæus's Hirundo riparia*) are to be met with every where in *America*; they make their neſts in the ground on the ſteep ſhores of rivers and lakes.

THE *Purple Martins* have likewiſe been deſcribed and drawn in their natural colours by *Cateſby* †. Dr. *Linnæus* likewiſe calls them *Hirundo purpurea*. They are leſs common here than the former ſpecies; I have ſeen in ſeveral places little houſes made of boards, and fixed on the outſide of the walls, on purpoſe that theſe *Martins* may make their neſts in them; for the people are very deſirous of having them near their houſes, becauſe they both drive away hawks and crows as ſoon as they ſee them, and alarm the poultry, by their anxious note, of

* *Hirundo, caudâ aculeatâ, Americana.* Cateſb. Carol. vol. iii, t. 8.

† *Hirundo purpurea.* Nat. Hiſt. of Carol. vol. i, t. 51.

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the approach of their enemies. The chickens are likewiſe uſed to run under ſhelter, as ſoon as they are warned by the *Martins*.

Ap. 17th. The *Dirca paluſtris*, or *Mouſe-wood*, is a little ſhrub which grows on the riſing ground adjoining to the ſwamps and marſhes, and was now in full bloſſom. The *Engliſh* in *Albany* call it *Leather-wood*, becauſe its bark is as tough as leather. The *French* in *Canada* call it *Bois de Plomb*, or *Leaden*-wood, becauſe the wood itſelf is as ſoft and as tough as lead. The bark of this ſhrub was made uſe of for ropes, baſkets, &c. by the *Indians*, whilſt they lived among the *Swedes*. And it is really very fit for that purpoſe, on account of its remarkable ſtrength and toughneſs, which is equal to that of the *Lime-tree* bark. The *Engliſh* and the *Dutch* in many parts of *North America*, and the *French* in *Canada*, employ this bark in all caſes where we make uſe of *Lime-tree* bark in *Europe*. The tree itſelf is very tough, and you cannot eaſily ſeparate its branches without the help of a knife: ſome people employ the twigs for rods.

Ap. 20th. This day I found the *Straw-berries* in flower, for the firſt time, this year: the fruit is commonly larger than that in *Sweden*; but it ſeems to be leſs ſweet and agreeable.

The annual harveſt, I am told, is always of ſuch a nature, that it affords plenty of bread for the inhabitants, though it turns out to greater advantage in ſome years than it does in others. A venerable ſeptuagenary *Swede*, called *Aoke Helm*, aſſured me, that in his time no abſolutely barren crop had been met with, but that the people

people had always had pretty plentiful crops. It is likewiſe to be obſerved, that the people eat their bread of maize, rye, or wheat, quite pure and free from the inferior kinds of corn, and clear of huſks, ſtalks, or other impurities. Many aged *Swedes* and *Engliſhmen* confirmed this account, and ſaid, that they could not remember any crop ſo bad as to make the people ſuffer in the leaſt, much leſs that any body was ſtarved to death, whilſt they were in *America*. Sometimes the price of corn roſe higher in one year than in another, on account of a great drought or bad weather, but ſtill there was always corn ſufficient for the conſumption of the inhabitants. Nor is it likely that any great famine can happen in this country, unleſs it pleaſe God to afflict it with extraordinary puniſhments. The weather is well known, from more than ſixty years experience. Here are no cold nights which hurt the germ. The wet is of ſhort continuance, and the drought is ſeldom or never of long duration. But the chief thing is the great variety of corn. The people ſow the different kinds, at different times and ſeaſons, and though one crop turn out bad, yet another ſucceeds. The ſummer is ſo long, that of ſome ſpecies of corn they may get three crops. There is hardly a month from *May* to *October* or *November*, incluſive, in which the people do not reap ſome kind of corn, or gather ſome ſort of fruit. It would indeed be a very great misfortune if a bad crop ſhould happen; for here, as in many other places, they lay up no ſtores, and

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are contented that there is plenty of food for the preſent exigencies.

THE Peach-trees were now every where in bloſſom; their leaves were not yet come out of the buds, and therefore the flowers ſhewed to greater advantage; their beautiful pale red colour had a very fine effect; and they ſat ſo cloſe that the branches were entirely clad with them. The other fruit-trees were not yet in flower; however the apple-bloſſoms began to appear.

THE *Engliſh* and the *Swedes* of *America* give the name of *Currants* * to a ſhrub which grows in wet ground, and near ſwamps, and which was now in bloſſom; irs flowers are white, have a very agreeable fragancy, and grow in oblong bunches; the fruit is very good eating, when it is ripe; the *ſtyle* (*Stylus*) is thread-ſhaped (*filiformis*), and ſhorter than the *Stamina*; it is divided in the middle, into five parts, or *Stigmata*. Dr. *Linnæus* calls it *Cratægus* †, and Dr. *Gronovius* calls it a *Meſpilus* ‡.

Ap. 22d. THE *Swedes* give the name of *Whipperiwill*, and the *Engliſh* that of *Whip-poor-will*, to a kind of nocturnal bird, whoſe voice is heard in *North America*, almoſt throughout the whole night. *Cateſby* and *Edwards* both have deſcribed and figured it §. Dr. *Linnæus* calls it a variety of the *Caprimulgus Europæus*, or *Goat-*

* It muſt be carefully diſtinguiſhed from what is called *Currants* in *England*, which is the *Ribes rubrum*. F.

† *Cratægus tomentoſa*, Linn. Spec. Pl. p. 682.

‡ *Meſpilus inermis*, *foliis ovato-oblongis*, *ſerratis*, *ſubtus tomentoſis*. Gronov. Fl. Virgin. 55.

§ *Caprimulgus minor Americanus*. *Cateſb.* Nat. Hiſt. of *Carolina*, Vol. iii. t. 16. *Edwards*'s Nat. Hiſt. of Birds, t. 63.

ſucker: its ſhape, colour, ſize, and other qualities, make it difficult to diſtinguiſh them from each other. But the peculiar note of the *American* one diſtinguiſhes it from the *European* one, and from all other birds: it is not found here during winter, but returns with the beginning of ſummer. I heard it to-day, for the firſt time, and many other people ſaid, that they had not heard it before this ſummer; its *Engliſh* and *Swediſh* name is taken from its note; but, accurately ſpeaking, it does not call *Whipperiwill*, nor *Whip-poor-will*, but rather *Whipperiwip*, ſo that the firſt and laſt ſyllables are accented, and the intermediate ones but ſlightly pronounced. The *Engliſh* change the call of this bird into *Whip-poor-will*, that it may have ſome kind of ſignification: it is neither heard nor ſeen in day-time; but ſoon after ſun-ſet it begins to call, and continues for a good while, as the cuckow does in *Europe*. After it has continued calling in a place for ſome time, it removes to another, and begins again: it uſually comes ſeveral times in a night, and ſettles cloſe to the houſes; I have ſeen it coming late in the evening, and ſettling on the ſteps of the houſe in order to ſing its ſong; it is very ſhy, and when a perſon ſtood ſtill, it would ſettle cloſe by him, and begin to call. It came to the houſes in order to get its food, which conſiſts of inſects; and thoſe always abound near the houſes at night; when it ſat and called its *whipperiwhip*, and ſaw an inſect paſſing, it flew up and caught it, and ſettled again. Sometimes you hear four or five, or more, near each other, calling as it were for a wager, and raiſing a great noiſe

noiſe in the woods. They were ſeldom heard in towns, being either extirpated there, or frightened away, by frequent ſhooting. They do not like to ſit on trees, but are commonly on the ground, or very low in buſhes, or on the lower poles of the encloſures. They always fly near the ground: they continue their calling at night till it grows quite dark; they are ſilent till the dawn of day comes on, and then they call till the ſun riſes. The ſun ſeems to ſtop their mouths, or dazzle their eyes, ſo as to make them ſit ſtill. I have never heard them call in the midſt of night, though I hearkened very attentively on purpoſe to hear it; and many others have done the ſame. I am told they make no neſt, but lay two eggs in the open fields. My ſervant ſhot at one which ſat on a buſh near the houſe, and though he did not hit it, yet it fell down through fear, and lay for ſome time as if dead; but recovered afterwards. It never attempted to bite when it was held in the hands, only endeavouring to get looſe by ſtirring itſelf about. Above, and cloſe under the eyes, were ſeveral black, long, and ſtiff briſtles, as in other nocturnal birds. The *Europeans* eat it. Mr. *Cateſby* ſays, the *Indians* affirm, that they never ſaw theſe birds, or heard of them, before a certain great battle, in which the *Europeans* killed a great number of *Indians*. Therefore, they ſuppoſe that theſe birds, which are reſtleſs, and utter their plaintive note at night, are the ſouls of their anceſtors who died in battle.

Ap.

Ap. 24th. To-day the *Cherry-trees* began to ſhew their bloſſoms; they had already pretty large leaves.

The *Apple-trees* likewiſe began to bloſſom; however the *Cherry-trees* were more forward: They likewiſe got a greeniſh hue from their leaves.

The *Mulberry-trees* * were yet quite naked; and I was ſorry to find that this tree is one of the lateſt in getting leaves, and one of the firſt which gets fruit.

Ap. 26th. This morning I travelled to *Penn's Neck.* The *Tulip-trees,* eſpecially the tall ones, looked quite green, being covered with their leaves; this tree is therefore one of the earlieſt which get leaves.

To-day I ſaw the flowers of the *Saſſafras-tree, (Laurus Saſſafras.)* The leaves were not yet come out. The flowers have a fine ſmell.

The *Lupinus perennis* is abundant in the woods, and grows equally in good ſoil and in poor. I often found it thriving on very poor ſandy fields, and on heaths, where no other plants will grow. Its flowers, which commonly appear in the middle of *May,* make a fine ſhew by their purple hue. I was told, that the cattle eat theſe flowers very greedily; but I was ſorry to find very often that they were not ſo fond of it, as it is repreſented, eſpecially when they had any thing elſe to eat; and they ſeldom touched it, notwithſtanding its fine green colour, and its ſoftneſs: The horſes eat the flowers,

* *Morus rubra.*

but leave the ſtalks and leaves. If the cattle eat this plant in ſpring, neceſſity and hunger give it a reliſh. This country does not afford any green paſtures like the *Swediſh* ones; the woods are the places where the cattle muſt collect their food. The ground in the woods is chiefly flat, or with very little riſings. The trees ſtand far aſunder; but the ground between them is not covered with green ſods; for there are but few kinds of graſſes in the woods, and they ſtand ſingle and ſcattered. The ſoil is very looſe, partly owing to the dead leaves which cover the ground during a great part of the year. Thus the cattle find very little graſs in the woods, and are forced to be ſatisfied with all kinds of plants which come in their way, whether they be good or bad food. I ſaw for ſome time this ſpring, that the cattle bit off the tops and ſhoots of young trees, and fed upon them; for no plants were yet come up, and they ſtand in general but very thin, and ſcattered here and there, as I have juſt mentioned. Hence you may eaſily imagine that hunger compels the cattle to eat plants, which they would not touch were they better provided for. However, I am of opinion, that it would be worth while to make uſe of this *Lupine* to mend dry ſandy heaths, and, I believe, it would not be abſolutely impoſſible to find out the means of making it agreeable to the cattle.

The *Oaks* here have ſimilar qualities with the *European* ones. They keep their dead leaves almoſt during the whole winter, and are very backward in getting freſh ones; they had no

leaves

leaves as yet, and were but juſt beginning to ſhew a few.

THE *Humming-bird*, which the *Swedes* call *King's-bird* *, and which I have mentioned in a former volume, appeared hereabouts to-day, for the firſt time this ſpring.

NUMBERS of *Oil beetles, (Meloë Proſcarabæus)* ſat on the leaves of white *Hellebore, (Veratrum album)* and feaſted on them. I conſidered them a great while, and they devoured a leaf in a few minutes. Some of them had already eaten ſo much that they could hardly creep. Thus this plant, which is almoſt certain death to other animals, is their dainty food.

THE *Fire-flies* appeared at night, for the firſt time this year, and flew about between the trees, in the woods. It ſeemed, in the dark, as if ſparks of fire flew up and down. I will give a more particular account of them in another place.

TOWARDS night I went to *Raccoon*.

May 1ſt. THE laſt night was ſo cold, that the ground at ſun-riſing was as white as ſnow, from the hoary-froſt. The *Swediſh* thermometer was a degree and a half below the freezing point. We obſerved no ice in the rivers or waters of any depth; but upon ſuch only as were about three inches deep, the ice lay to the thickneſs of one third part of a *line* †. The evening before, the wind was ſouth, but the night was calm. The apple-trees and cherry-

* *Kungsfogel.*

† The tenth part of an inch.

trees were in full bloſſom. The peach-trees were almoſt out of flower. Moſt of the foreſt-trees had already got new and tender leaves, and moſt of them were in flower, as almoſt all kinds of oaks, the dog-wood, *(Cornus Florida)*, hiccory, wild prunes, ſaſſafras, horn-beam, beeches, &c.

THE plants which were found damaged by the froſt, were the following. 1. The *Hiccory*. Moſt of the young trees of this kind had their leaves killed by the froſt, ſo that they looked quite black in the afternoon; the leaves were conſumed by froſt every where in the fields, near the marſhes, and in the woods. 2. The *black Oak*. Several of theſe trees had their leaves damaged by the froſt. 3. The *white Oak*. Some very young trees of this kind had loſt their leaves by the froſt. 4. The bloſſoms of the *Cherry-trees* were hurt in ſeveral places. 5. The flowers of the *Engliſh Walnut-tree* were entirely ſpoiled by the froſt. 6. The *Rhus glabra*. Some of theſe trees had already got leaves, and they were killed by the cold. 7. The *Rhus radicans*; the tender young trees of this kind ſuffered from the froſt, and had their leaves partly killed. 8. The *Thalictra*, or *Meadow Rues*, had both their flowers and leaves hurt by the froſt. 9. The *Podophyllum peltatum*. Of this plant there was not above one in five hundred hurt by the froſt. 10. The *Ferns*. A number of them, which were lately come up, were deſtroyed. I muſt add ſeveral plants which were likewiſe hurt, but which I could not diſtinguiſh, on account of their ſmallneſs.

I WENT to ſeveral places this day.

THE

THE *Bartsia coccinea* grew in great abundance on several low meadows. Its flower-buds were already tinged with their precious scarlet, and adorned the meadows. It is not yet applied to any use, but that of delighting the sight.

ONE of the *Swedes* here had planted an *English* walnut-tree *(Juglans regia)* in his garden, and it was now about three yards high; it was in full blossom, and had already great leaves, whereas the black walnut-trees, which grow spontaneously in every part of this country, had not yet any leaves, or flowers. The last night's frost had killed all the leaves of the *European* kind. Dr. *Franklin* told me afterwards, that there had been some *English* walnut-trees in *Philadelphia*, which came on very well; but that they were killed by the frost.

I LOOKED about me for the trees which had not yet got fresh leaves, and I found the following ones:

Juglans nigra, or the *Black Walnut-tree.*
Fraxinus excelsior, or the *Ash.*
Acer Negundo, called the *White Ash* here.
Nyssa aquatica, the *Tupelo-tree.*
Diospyros Virginiana, or the *Persimon.*
Vitis Labrusca, or the *Fox-grapes*; and
Rhus glabra, or the *Sumach.*

THE trees whose leaves were coming out, were the following:

Morus rubra, the *Mulberry-tree.*
Fagus Castanea, the *Chesnut-tree.*
Platanus occidentalis, or the *Water-beech.*
Laurus Sassafras, the *Sassafras-tree.*
Juglans alba, the *Hiccory.* Some trees of

this kind had already large leaves, but others had none at all; the ſame difference, I believe, exiſts likewiſe among the other ſpecies of hiccory.

The *Virginian Cherry-tree* grows here and there, in the woods and glades: its leaves were already pretty large; but the flowers were not yet entirely open.

The *Saſſafras-tree* was now every where in flower; but its leaves were not yet quite diſcloſed.

The *Liquidambar Styraciflua* or *Sweet Gum-tree*, grows in the woods, eſpecially in wet ſoil, in and near purling rivulets: its leaves were now already ſprouting out at its ſummit. This tree grows to a great thickneſs, and its height rivals that of the talleſt firs and oaks; as it grows higher, the lower branches die and drop, and leave the ſtem at laſt quite ſmooth and ſtrait, with a great crown at the very ſummit; the ſeeds are contained in round, dentated cones, which drop in autumn; and as the tree is very tall, ſo the high winds carry the ſeeds away to a great diſtance. I have already given an account of the uſe of this tree in the firſt volume, to which I muſt add the following account.

The wood can be made very ſmooth, becauſe its veins are extremely fine: but it is not hard; you can carve letters on it with a knife, which will ſeem to be engraved. Mr. *Lewis Evans* told me, from his own experience, that no wood in this country was more fit for making moulds for caſting braſs in, than this. I enquired of Mr. *Bartram*, "Whether he had found the roſin on this tree, which is ſo much praiſed in phyſic?" He told me, "That a very odorife-

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rous roſin always flows out of any cut or wound, which is made in the tree; but that the quantity here was too inconſiderable to recompenſe the labour of collecting it." This odoriferous roſin or gum firſt gave riſe to the *Engliſh* name. The further you go to the *South*, the greater quantity of gum does the tree yield, ſo that it is eaſy to collect it. Mr. *Bartram* was of opinion, that this tree was properly calculated for the climate of *Carolina*, and that it was brought by ſeveral ways ſo far North as *New York*. In the ſouthern countries the heat of the Sun fills the tree with gum, but in the northern ones it does not.

May 2d. This morning I travelled down to *Salem*, in order to ſee the country.

The *Saſſafras-tree* ſtood ſingle in the woods, and along the fences, round the fields: it was now diſtinguiſhable at a diſtance for its fine flowers, which being now quite open, made it look quite yellow. The leaves were not yet come out.

In ſome meadows the graſs was already grown up pretty high: but it is to be obſerved, that theſe meadows were marſhy, and that no cattle had been on them this year. Theſe meadows are mown twice a year, *viz.* in *May*, and the end of *Auguſt*, or beginning of *September*, old ſtyle. I ſaw ſome meadows of this kind to-day, in which I ſaw graſs which was now almoſt fit to be mown; and many meadows in *Sweden* have not ſuch graſs at the proper time of mowing, as theſe had now; theſe meadows lay in marſhes and vallies, where the Sun had very great power: the graſs conſiſted merely of *Cyprus-graſs* or *Carex*.

The wild *Prune-trees* were now every where in flower; they grow here and there in the woods, but commonly near marſhes and in wet ground: they are diſtinguiſhable by their white flowers: the fruit when ripe is eatable.

The *Cornus Florida*, or *Dogwood*, grows in the foreſts, on hills, on plains, in vallies, in marſhes, and near rivulets. I cannot therefore ſay which is its native ſoil; however, it ſeems that in a low but not a wet ſoil it ſucceeds beſt; it was now adorned with its great ſnowy *Involucra*, which render it conſpicuous even at a diſtance. At this time it is a pleaſure to travel through the woods, ſo much are they beautified by the bloſſoms of this tree. The flowers which are within the *Involucra* began to open to-day. The tree does not grow to any conſiderable height or thickneſs, but is about the ſize of our *Mountain Aſh* (*Sorbus aucuparia*). There are three ſpecies of this tree in the woods; one with great white *Involucra*, another with ſmall white ones, and a third with reddiſh ones.

The woods were now full of birds: I ſaw the leſſer ſpecies every where hopping on the ground, or creeping in buſhes, without any great degree of ſhineſs; it is therefore very eaſy for all kind of ſnakes to approach and bite them. I believe that the rattleſnake has nothing to do but to ly ſtill, and without waiting long, ſome little bird or other will paſs by or run directly upon her, giving her an opportunity of catching it, without any enchantment.

Salem is a little trading town, ſituated at ſome diſtance from the river *Delaware*. The houſes

houſes do not ſtand far aſunder, and are partly ſtone, and partly wood. A rivulet paſſes by the town, and falls into the *Delaware*. The inhabitants live by their ſeveral trades as well as they can. In the neighbourhood of *Salem* are ſome very low and ſwampy meadows; and therefore it is reckoned a very unwholeſome place. Experience has ſhewn, that thoſe who came hither from other places to ſettle, got a very pale and ſickly look, though they arrived in perfect health, and with a very lively colour. The town is very eaſily diſtinguiſhed about this time, by the diſagreeable ſtench which ariſes from the ſwamps. The vapours of the putrid water are carried to thoſe inhabitants which live next to the marſhes; and enter the body along with the air, and through the pores, and thus are hurtful to health. At the end of every ſummer, the intermitting fevers are very frequent. I knew a young couple, who came along with me from *England* to *America:* ſoon after their arrival at *Philadelphia*, they went to *Salem*, in perfect health; but a few weeks after they fell ſick, and before the winter was half over they were both dead.

MANY of the inhabitants plant *Saffron*; but it is not ſo good and ſo ſtrong as the *Engliſh* and *French Saffron*. Perhaps it grows better by being laid up for ſome years, as tobacco does.

THE *Goſſypium herbaceum*, or Cotton plant, is an annual plant; and ſeveral of the inhabitants of *Salem* had began to ſow it. Some had the ſeeds from *Carolina*, where they have great plantations of cotton; but others got it out of ſome

cotton

cotton which they had bought. They ſaid, it was difficult, at firſt, to get ripe ſeeds from the plants which were ſown here; for the ſummer in *Carolina*, from whence their firſt ſeed came, is both longer and hotter than it is here. But after the plants have been more uſed to the climate, and haſtened more than they were formerly, the ſeeds are ripe in due time.

At night I returned to *Raccoon*.

May 4th. Crab-trees are a ſpecies of wild apple-trees, which grow in the woods and glades, but eſpecially on little hillocks, near rivers *. In *New Jerſey* the tree is rather ſcarce; but in *Penſylvania* is plentiful. Some people had planted a ſingle tree of this kind near their farms, on account of the fine ſmells which its flowers afford. It had begun to open ſome of its flowers about a day or two ago; however, moſt of them were not yet open. They are exactly like the bloſſoms of the common apple-trees, except that the colour is a little more reddiſh in the *Crab-trees*; though ſome kinds of the cultivated trees have flowers which are very near as red: but the ſmell diſtinguiſhes them plainly; for the wild trees have a very pleaſant ſmell, ſomewhat like the raſp-berry. The apples, or crabs, are ſmall, ſour, and unfit for any thing but to make vinegar of. They ly under the trees all the winter, and acquire a yellow colour. They ſeldom begin to rot before ſpring comes on.

* *Pyrus coronaria.* Linn. Sp. Plant. *Malus ſylveſtris, floribus odoratis.* Gronov. Fl. Virginica. p. 55.

I can-

I CANNOT omit an obſervation here. The *Crab-trees* opened their flowers only yeſterday and to-day; whereas, the cultivated apple-trees, which are brought from *Europe*, had already loſt their flowers. The wild cherry-trees did not flower before the 12th of *May*; on the other hand, the cultivated or *European* ones, had already opened their bloſſoms on the 24th of *April*. The black walnut-trees of this country had neither leaves nor flowers, when the *European* kind has large leaves and bloſſoms. From hence it appears, that trees brought over from *Europe*, of the ſame kind with the wild trees of *America*, flower much ſooner than the latter. I cannot ſay what is the reaſon of this forwardneſs of the *European* trees in this country, unleſs they bring forth their bloſſoms as ſoon as they get a certain degree of warmth, which they have in their native country. It ſeems, the *European* trees do not expect, after a conſiderable degree of warmth, any ſuch cold nights as will kill their flowers; for, in the cold countries, there ſeldom happen any hot days ſucceeded by ſuch cold nights as will hurt the flowers conſiderably. On the contrary, the wild trees in this country are directed by experience, (if I may ſo ſpeak) not to truſt to the firſt warmth; but they wait for a greater heat, when they are already ſafe from cold nights. Therefore, it happens often that the flowers of the *European* trees are killed by the froſts here; but the native trees are ſeldom hurt, though they be of the ſame kind with the *European* ones. This is a manifeſt proof of the wiſdom of the Creator.

May 5th. EARLY this morning I went to *Rapaapo*, which is a great village, whoſe farms ly all ſcattered. It was inhabited merely by *Swedes*, and not a ſingle *Engliſhman*, or people of any other nation, lived in it: therefore they have preſerved their native *Swediſh* tongue, and mixed but few *Engliſh* words with it. The intention of my journey was partly to ſee the place, and to collect plants and other natural curioſities there; and partly to find the places where the *White Cedar*, or *Cupreſſus thyoides*, grows.

THE *Mayflowers*, as the *Swedes* call them, were plentiful in the woods where-ever I went to-day; eſpecially on a dry ſoil, or one that is ſomewhat moiſt. The *Swedes* have given them this name becauſe they are in full bloſſom in *May*. Some of the *Swedes* and the *Dutch* call them *Pinxter-bloem, (Whitſunday flowers)*, as they really are in bloſſom about *Whitſuntide*. The *Engliſh* call them *Wild Honeyſuckles*; and at a diſtance they have ſome ſimilarity to the *Honeyſuckle*, or *Lonicera*. Dr. *Linnæus*, and other botaniſts, call it an *Azalea* *. Its flowers were now open, and added a new ornament to the woods, being little inferior to the flowers of the honeyſuckle and *Hedyſarum*. They ſit in a circle round the ſtem's extremity, and have either a dark red or a lively red colour; but, by ſtanding for ſome time, the ſun bleaches them, and at laſt they get a whitiſh hue. I

* *Azalea nudiflora.* Linn. Spec. Plant. p. 214. *Azalea ramis infra flores nudis.* Gron. Virg. 21.

know

know not why *Colden* calls them yellow *. The height of the buſh is not always alike. Some were as tall as a full grown man, and taller; others were but low, and ſome were not above a palm from the ground; yet they were all full of flowers. The people have not yet found that this plant may be applied to any uſe; they only gather the flowers, and put them in pots, becauſe they are very ſhewy. They have ſome ſmell; but I cannot ſay it is very pleaſant. However, the beauty of the colour entitles them to a place in every flower-garden.

To-DAY I ſaw the firſt ear of this year's rye. In *Sweden*, rye begins to ſhew its ears about *Ericmas*, that is, about the 18th of *May*, old ſtile †. But in *New Sweden*, the people ſaid, they always ſaw the ears of rye in *April*, old ſtile; whether the ſpring begins late or early. However, in ſome years the ears come early, and in others late, in *April*. This ſpring was reckoned one of the late ones.

BULLFROGS ‡ are a large ſpecies of frogs, which I had an opportunity of hearing and ſeeing to-day. As I was riding out, I heard a roaring before me; and I thought it was a bull in the buſhes, on the other ſide of the dyke, though the ſound was rather more hoarſe than that of a bull. I was however afraid, that a bad goring bull might be near me, though I

* *Azalea erecta, foliis ovatis, integris, alternis, flore luteo, piloſo, præcoci.* Cold. Ebor. 25.

† Accordingly about the 29th of *May*, new ſtile.

‡ *Rana boans.* Linn. Syſt. I. p. 358. *Rana maxima, Americana, aquatica* Cateſb. Carol. II. 72.

did

did not ſee him; and I continued to think ſo till ſome hours after, when I talked with ſome *Swedes* about the *Bullfrogs*, and, by their account, I immediately found that I had heard their voice; for the *Swedes* told me, that there were numbers of them in the dyke. I afterwards hunted for them. Of all the frogs in this country, this is doubtleſs the greateſt. I am told, that towards autumn, as ſoon as the air begins to grow a little cool, they hide themſelves under the mud, which lies at the bottom of ponds and ſtagnant waters, and ly there torpid during winter. As ſoon as the weather grows mild, towards ſummer, they begin to get out of their holes, and croak. If the ſpring, that is, if the mild weather, begins early, they appear about the end of *March*, old ſtile; but if it happens late, they tarry under water till late in *April*. Their places of abode are ponds, and bogs with ſtagnant water; they are never in any flowing water. When many of them croak together, they make an enormous noiſe. Their croak exactly reſembles the roaring of an ox or bull, which is ſomewhat hoarſe. They croak ſo loud, that two people talking by the ſide of a pond cannot underſtand each other. They croak all together; then ſtop a little, and begin again. It ſeems as if they had a captain among them: for when he begins to croak, all the others follow; and when he ſtops, the others are all ſilent. When this captain gives the ſignal for ſtopping, you hear a note like *poop* coming from him. In day-time they ſeldom make any great noiſe, unleſs the ſky is covered.

vered. But the night is their croaking time; and, when all is calm, you may hear them, though you are near a mile and a half off. When they croak, they commonly are near the ſurface of the water, under the buſhes, and have their heads out of the water. Therefore, by going ſlowly, one may get cloſe up to them before they go away. As ſoon as they are quite under water, they think themſelves ſafe, though the water be very ſhallow.

SOMETIMES they ſit at a good diſtance from the pond; but as ſoon as they ſuſpect any danger, they haſten with great leaps into the water. They are very expert at hopping. A full-grown *Bullfrog* takes near three yards at one hop. I have often been told the following ſtory by the old *Swedes*, which happened here, at the time when the *Indians* lived with the *Swedes*. It is well known, that the *Indians* are excellent runners; I have ſeen them, at Governor *Johnſon's*, equal the beſt horſe in its ſwifteſt courſe, and almoſt paſs by it. Therefore, in order to try how well the bull-frogs could leap, ſome of the *Swedes* laid a wager with a young *Indian*, that he could not overtake the frog, provided it had two leaps before hand. They carried a bull-frog, which they had caught in a pond, upon a field, and burnt his back-ſide; the fire, and the *Indian*, who endeavoured to be cloſely up with the frog, had ſuch an effect upon the animal, that it made its long hops acroſs the field, as faſt as it could. The *Indian* began to purſue the frog with all his might at the proper time: the noiſe he made in running frightened the poor

frog; probably it was afraid of being tortured with fire again, and therefore it redoubled its leaps, and by that means it reached the pond before the *Indian* could over-take it.

In ſome years they are more numerous than in others: nobody could tell, whether the ſnakes had ever ventured to eat them, though they eat all the leſſer kinds of frogs. The women are no friends to theſe frogs, becauſe they kill and eat young ducklings and goſlings: ſometimes they carry off chickens that come too near the ponds. I have not obſerved that they bite when they are held in the hands, though they have little teeth; when they are beaten, they cry out almoſt like children. I was told that ſome eat the thighs of the hind legs, and that they are very palatable.

A tree which grows in the ſwamps here, and in other parts of *America*, goes by the name of *White Juniper-tree*. Its ſtem indeed looks like one of our old tall and ſtrait juniper-trees in *Sweden*: but the leaves are different, and the wood is white. The *Engliſh* call it *White Cedar*, becauſe the boards which are made of the wood are like thoſe made of cedar. But neither of theſe names are juſt, for the tree is of the cypreſs kind *. It always grows in wet ground or ſwamps: it is therefore difficult to come to them, becauſe the ground betwen the little hillocks is full of water. The trees ſtand both on the hillocks and in the water: they grow very

* *Cupreſſus thyoides*. Linn. Spec. Pl. p. 1422. Cypreſſus Americana, fructu minimo. *Miller's* Gard. Dictionary.

cloſe

cloſe together, and have ſtrait, thick, and tall ſtems; but they were greatly reduced in number to what they have been before. In ſuch places where they are left to grow up, they grow as tall and as thick as the talleſt fir-trees; they preſerve their green leaves both in winter and ſummer; the tall ones have no branches on the lower part of the ſtem.

The marſhes where theſe trees grow are called *Cedar Swamps*. Theſe cedar ſwamps are numerous in *New Jerſey*, and likewiſe in ſome parts of *Penſylvania* and *New York*. The moſt northerly place, where it has been hitherto found, is near *Goſhen* in *New York*, under forty-one degrees and twenty-five minutes of north latitude, as I am informed by Dr. *Colden*. For to the North of *Goſhen*, it has not been found in the woods. The white cedar is one of the trees which reſiſt the moſt to putrefaction; and when it is put above ground, it will laſt longer than under ground: therefore it is employed for many purpoſes; it makes good fences, and poſts which are to be put into the ground; but in this point, the red cedar is ſtill preferable to the white; it likewiſe makes good canoes. The young trees are employed for hoops round barrells, tuns, &c. becauſe they are thin and pliable; the thick and tall trees afford timber, and wood for cooper's work. The houſes which are built of it, ſurpaſs in duration thoſe which are built of *American* oak. Many of the houſes in *Rapaapo* were made of this white cedar wood; but the chief thing which the white cedar affords is the beſt kind of ſhingles. The white

cedar ſhingles are preferred to all others for ſeveral reaſons; firſt, they are more durable than any others made of *American* wood, the red cedar ſhingles excepted; ſecondly, they are very light, ſo that no ſtrong beams are requiſite to ſupport the roof. For the ſame reaſon it is unneceſſary to build thick walls, becauſe they are not preſſed by heavy roofs. When fires break out, it is leſs dangerous to go under or along the roofs, becauſe the ſhingles being very light can do little hurt by falling; they ſuck the water, being ſomewhat ſpungy, ſo that the roofs can eaſily be wetted in caſe of a fire: however, their fatneſs occaſions that the water does not hurt them, but evaporates eaſily. When they burn and are carried about by the wind, they have commonly what is called a dead coal, which does not eaſily ſet fire where it alights. The roofs made of theſe ſhingles can eaſily be cut through, if required, becauſe they are thin, and not very hard; for theſe qualities the people in the country, and in the towns, are very deſirous of having their houſes covered with white cedar ſhingles, if the wood can be got. Therefore all churches, and the houſes of the more ſubſtantial inhabitants of the towns, have ſhingle roofs. In many parts of *New York* province, where the white cedar does not grow, the people, however, have their houſes roofed with cedar ſhingles, which they get from other parts. To that purpoſe great quantities of ſhingles are annually exported from *Eggharbour* and other parts of *New Jerſy*, to the town of *New York*, from whence they are diſtributed throughout the province.

province. A quantity of white cedar wood is likewiſe exported every year to the *Weſt Indies*, for ſhingles, pipe-ſtaves, &c. Thus the inhabitants are very buſy here, not only to leſſen the number of theſe trees, but even to extirpate them entirely. They are here (and in many other places) in regard to wood, bent only upon their own preſent advantage, utterly regardleſs of poſterity. By this means many cedar ſwamps are already quite deſtitute of cedars, having only young ſhoots left; and I plainly obſerved, by counting the circles round the ſtem, that they do not grow up very quickly, but require a great deal of time before they can be cut for timber. It is well known that a tree gets only one circle every year; a ſtem, eighteen inches in diameter had one hundred and eight circles round the thicker end: another, ſeventeen inches in diameter, had a hundred and ſixteen; and another, two feet in diameter, had one hundred and forty-two circles upon it. Thus near eighty years growth is required, before a white cedar raiſed from ſeed can be uſed for timber. Among the advantages which the white cedar ſhingles have over others, the people reckon their lightneſs. But this good and uſeful quality may in future times turn out very diſadvantageous to *Philadelphia*, and other places where the houſes are roofed with cedar ſhingles: for as the roofs made of theſe ſhingles are very light, and bear but a trifling weight on the walls, ſo the people have made the walls but very thin. I meaſured the thickneſs of the walls of ſeveral houſes here, of three ſtories high (cellar and garret not included),

ed), and found moſt of them nine inches and a half, and ſome ten inches thick; therefore it is by no means ſurpriſing, that violent hurricanes ſometimes make the brick gable-ends to vibrate apparently, eſpecially on ſuch houſes as have a very open ſituation. And ſince the cedar trees will ſoon be wanting in this country, and the preſent roofs when rotten muſt be ſupplied with heavier ones, of tiles, or of other wood, it is more than probable, that the thin walls will not be able to bear ſuch an additional weight, and will either break, or require to be ſupported by props: or elſe the whole houſe muſt be pulled down and rebuilt with thicker walls. This obſervation has already been made by others Some of the people here make uſe of the chips of white cedar inſtead of tea, aſſuring me that they preferred it in regard to its wholeſomeneſs to all foreign tea. All the inhabitants here were of opinion, that the water in the cedar ſwamps is wholeſomer than any other drink; it creates a great appetite, which they endeavoured to prove by ſeveral examples. They aſcribed this quality to the water itſelf, which is filled with the roſin of the trees, and to the exhalations which came from the trees, and can eaſily be ſmelled. The people likewiſe thought that the yellowiſh colour of the water, which ſtands between the cedar trees, was owing to the roſin, which comes out of the roots of theſe trees. They likewiſe all agreed, that this water is always very cold in the hotteſt ſeaſon, which may be partly owing to the continual ſhade it is in. I knew ſeveral people who were reſolved to go to theſe cedar

ſwamps,

ſwamps, and uſe the waters for the recovery of their appetite. Mr. *Bartram* planted a white cedar in a dry ſoil, but it could not ſucceed there: he then put it into a ſwampy ground, where it got as it were new life, and came on very well; and though it was not taller than a man, yet it was full of cones. Another thing is very remarkable, with regard to the propagation of this tree: Mr. *Bartram* cut its branches in ſpring two years ſucceſſively, and put them into the ſwampy ſoil, where they ſtruck roots, and ſucceeded very well. I have ſeen them myſelf.

THE *red Juniper-tree* is another tree which I have mentioned very frequently in the courſe of my account. The *Swedes* have given it the name of red Juniper, becauſe the wood is very red and fine within. The *Engliſh* call it *red Cedar*, and the *French Cedre rouge*. However, the *Swediſh* name is the moſt proper, as the tree belongs to the *Junipers* *. At its firſt growth it has a deal of ſimilarity to the *Swediſh Juniper* †, but after it is grown up it gets quite different leaves. The berry exactly reſembles that of the *Swediſh Juniper*, in regard to its colour and ſhape; however, they are not ſo big, though the *red Cedar* grows very tall. At *Raccoon* theſe trees ſtood ſingle, and were not very tall. But at other places I have ſeen them ſtanding together in cluſters; they like the ſame ground as the common *Swediſh Juniper*, eſpecially on the riſing banks of rivers, and on

* *Juniperus Virginiana. Lin. Spec. pl. p.* 114.
† *Juniperus communis. Linn. Spec. pl. p.* 1470.

other rising grounds, in a dry, and frequently in a poor soil. I have seen them growing in abundance, as thick and tall as the tallest fir-trees, on poor dry and sandy heaths. Towards *Canada*, or in the most northerly places, where I have seen them, they commonly choose the steep sides of the mountains, and there they grow promiscuously with the common *Juniper*. The most northerly places where I have found them wild in the woods, is in *Canada*, eighteen *French* miles to the southward of the Fort *Saint Jean*, or *St. John*, in about 44° 35′ North Latitude. I have likewise seen it growing very well in a garden, on the island of *Magdalene* *, belonging to the then governor of *Montreal*, *Monsieur le Baron de Longueil*. But it had been got at more southerly places, and was transplanted here. Of all the woods in this country, this is without exception the most durable, and withstands putrefaction longer than any other; it is therefore employed in all such cases where it is most liable to rot, especially for all kinds of posts which are to be put into the ground. Some people say, that if an iron be put into the ground along with a pole of cedar, the iron would be half corroded by rust in the same time that the wood would be rotten. In many places both the fences, and the posts belonging to them, are made of red cedar. The best canoes, consisting of a single piece of wood, are made of red cedar; for they last longer than any others, and are very light. In *New York* I have seen pretty large yachts built of red cedar. Several yachts which go

* An island in the river St. *Lawrence*, close by the town of *Montreal in Canada*.

from

from *New York* to *Albany*, up the river *Hudſon*, are built in a different manner, as I have mentioned in the firſt volume *. In *Philadelphia* they cannot make any yachts or other boats of red cedar, becauſe the quantity and the ſize of the trees will not allow of it. For the ſame reaſon they do not roof their houſes with red cedar ſhingles; but in ſuch places where it is plentiful, it makes excellent good roofs. The heart of this cedar is of a fine red colour, and whatever is made of it looks very fine, and has a very agreeable and wholeſome ſmell. But the colour fades by degrees, or elſe the wood would be exceedingly proper for cabinet work. I ſaw a parlour in the country ſeat of Mr. *Norris*, one of the Members of the *Penſylvanian* Houſe of Aſſembly, wainſcotted many years ago with boards of red cedar. Mr. *Norris* aſſured me that the cedar looked exceedingly well in the beginning, but it was quite faded when I ſaw it, and the boards looked very ſhabby, eſpecially the boards near the window had entirely loſt their colour; ſo that Mr. *Norris* had been obliged to put mahogany in their ſtead: however, I was told, that the wood will keep its colour if a thin varniſh is put upon it whilſt it is freſh, and juſt after it has been planed, and if care is taken that the wood is not afterwards rubbed or hurt. At leaſt it makes the wood keep its colour much longer than commonly.

* The lower part of the yachts, which is continually under water, is made of black oak; the upper part is built of red cedar, becauſe it is ſometimes above and ſometimes in the water.

Since it has a very pleaſant ſmell when freſh, ſome people put the ſhavings and chips of it among their linen to ſecure it againſt being worm-eaten. Some likewiſe get bureaus, &c. made of red cedar, with the ſame view. But it is only uſeful for this purpoſe as long as it is freſh, for it loſes its ſmell after ſome time, and is then no longer good for keeping off inſects. It is ſometimes ſent to *England*, as timber, and ſells very well. In many places round *Philadelphia*, in the ſeats of the gentry, there was commonly an avenue, with a row of theſe trees planted on both ſides, leading from the high road to the houſe. The lower branches were cut, and only a fine crown left. In winter, when moſt other trees have loſt their leaves, this looks very fine. This tree has likewiſe a very ſlow growth; for a ſtem, thirteen inches and a quarter in diameter, had one hundred and eighty-eight rings, or annual circles; and another, eighteen inches in diameter, had at leaſt two hundred and fifty, for a great number of the rings were ſo fine that they could not be counted. This tree is propagated in the ſame manner as the common Juniper-tree is in *Sweden*, viz. chiefly by birds, which eat the berries and emit the ſeeds entire.

In the evening I returned to *Raccoon*.

May 6th. The Mulberry-trees (*Morus rubra*) about this time began to bloſſom, but their leaves were yet very ſmall. The people divided them into male and female trees or flowers; and ſaid that thoſe which never bore any fruit were males, and thoſe which did, females.

Smilax

SMILAX *laurifolia* was ſuperabundant in all the ſwamps near this place. Its leaves were now beginning to come out, for it ſheds them all every winter; it climbs up along trees and ſhrubs, and runs acroſs from one tree or buſh to another: by this means it ſhuts up the paſſage between the trees, faſtening itſelf every where with its cirrhi or tendrils, and even on people, ſo it is with the utmoſt difficulty one muſt force a paſſage in the ſwamps and woods, where it is plentiful; the ſtalk towards the bottom is full of long ſpines, which are as ſtong as the ſpines of a roſe-buſh, and catch hold of the clothes, and tear them: this troubleſome plant may ſometimes bring you into imminent danger, when botanizing or going into the woods, for, not to mention that the cloaths muſt be abſolutely ruined by its numberleſs ſpines, it occaſions a deep ſhade in the woods, by croſſing from tree to tree ſo often; this forces you to ſtoop, and even to creep on all fours through the little paſſages which are left cloſe to the ground, and then you cannot be careful enough to prevent a ſnake (of which there are numbers here) from darting into your face. The ſtalk of the plant has the ſame colour as the young roſe-buſhes. It is quite green and ſmooth between the ſpines; ſo that a ſtranger would take it to be a kind of thorn-buſh, in winter, when it is deſtitute of leaves.

May 8th. THE trees hereabouts were now ſtocked with innumerable *Caterpillars*; one kind eſpecially was obſervable, which is worſe than all the others. They immediately formed

great white webs, between the branches of the trees, ſo that they were perceptible, even at a diſtance; in each of theſe webs were thouſands of *Caterpillars*, which crept out of them afterwards, and ſpread chiefly upon the apple-trees. They conſumed the leaves, and often left not one on a whole branch. I was told, that ſome years ago they did ſo much damage, that the apple-trees and peach-trees hardly bore any fruit at all; becauſe they had conſumed all the leaves, and expoſed the naked trees to the intenſe heat of the ſun, by which means ſeveral of the trees died. The people took the following method of killing theſe *Caterpillars:* They fixed ſome ſtraw or flax on a pole, ſet it on fire, and held it under the web or neſts; by which a part was burnt, and a part fell to the ground. However, numbers of the *Caterpillars* crept up the trees again, which could have been prevented, if they had been trod upon, or killed any other way. I called chickens to ſuch places where they crept on the ground in numbers; but they would not eat them. Nor did the wild birds like them; for the trees were full of theſe webs, though whole flights of little birds had their neſts in the gardens and orchards.

May 18th. Though it was already pretty late in *May*, yet the nights were very dark here. About an hour after ſun-ſet, it was ſo dark, that it was impoſſible to read in a book, though the type was ever ſo large. About ten o'clock, on a clear night, the dark was ſo much increaſed, that it looked like one of the darkeſt ſtar-light nights in autumn, in *Sweden*. It likewiſe

ſeemed

ſeemed to me, that though the nights were clear, yet the ſtars did not give ſo great a light as they do in *Sweden*. And as, about this time, the nights are commonly dark, and the ſky covered with clouds; I could compare them only to dark and cloudy *Swediſh* winter nights. It was therefore, at this time of the year, very difficult to travel in ſuch cloudy nights; for neither man nor horſe could find their way. The nights, in general, ſeem very diſagreeable to me, in compariſon to the light and glorious ſummer nights of *Sweden*. Ignorance ſometimes makes us think ſlightly of our country. If other countries have their advantages, *Sweden* is not deſtitute of matter to boaſt of on this head: it likewiſe has its peculiar advantages; and upon weighing the advantages and inconveniencies of different places, *Sweden* will be found to be not inferior to any of them.

I WILL briefly mention in what points I think *Sweden* is preferable to this part of *America*; and why I prefer *Old Sweden* to *New Sweden*.

THE nights are very dark here all the ſummer; and in winter, they are quite as dark, if not darker, than the winter nights in *Sweden*; for here is no kind of *Aurora Borealis*, and the ſtars give a very faint light. It is very remarkable if an *Aurora Borealis* appears once or twice a year. The winters here bring no ſnow, to make the nights clear, and to make travelling more ſafe and eaſy. The cold is, however, frequently as intenſe as in *Old Sweden*. The ſnow which falls lies only a few days, and always goes off with a great deal of wet. The

Rattle-

Rattle-ſnakes, Horned-ſnakes, red-bellied, green, and other poiſonous *Snakes,* againſt whoſe bite there is frequently no remedy, are in great plenty here. To theſe I muſt add the wood-lice, with which the foreſts are ſo peſtered, that it is impoſſible to paſs through a buſh without having a whole army of them on your cloaths, or to ſit down, though the place be ever ſo pleaſant. The weather is ſo inconſtant here, that when a day is moſt exceſſively hot, the next is often ſenſibly cold. This ſudden change often happens in one day; and few people can ſuffer theſe changes, without impairing their health. The heat in ſummer is exceſſive, and the cold in winter often very piercing, but may be guarded againſt. But when the great heat endures long, there is hardly any remedy for it. It has frequently happened, that people who walked into the fields, dropped down dead, on account of the violence of the heat. Several diſtempers prevail here; and they increaſe every year. Nobody is left unattacked by the intermitting fever; and many people are forced to ſuffer it every year, together with other diſeaſes. Peaſe cannot be ſown, on account of the inſects which conſume them*. There are worms in the grains of rye, and numbers of them are in the cherry-trees. The *Caterpillars* often eat all the leaves from the trees, ſo that they cannot bear fruit in that year; and numbers die every year, both of fruit-trees and foreſt-trees. The graſs in the mea-

* *Bruchus Piſi.*

dows

dows is likewiſe conſumed by a kind of worms, and other ſpecies cauſe the plumbs to drop, before they are half ripe. The oak here affords not near ſo good timber as the *European* oak. The houſes are of no long duration. The meadows are poor, and what graſs they have is bad. The paſture for cattle in the foreſts conſiſts of ſuch plants as they do not like, and which they are compelled to eat by neceſſity; for it is difficult to find a ſingle graſs in great foreſts, where the trees ſtand far aſunder, notwithſtanding the ſoil is excellent. For this reaſon, the cattle are forced, during almoſt the whole winter and part of the ſummer, to live upon the young ſhoots and branches of trees, which ſometimes have no leaves: therefore, the cows give very little milk, and decreaſe in ſize every generation. The houſes are extremely unfit for winter habitations. Hurricanes are frequent, which overthrow trees, carry away roofs, and ſometimes houſes, and do a great deal of damage. Some of theſe inconveniencies might be remedied by art; but others will either admit of no alteration, or they will at leaſt coſt vaſt trouble. Thus every country has its advantages, and its defects: happy is he who can content himſelf with his own.

The rye grows very ill in moſt of the fields, which is chiefly owing to the careleſſneſs in agriculture, and to the poorneſs of the fields, which are ſeldom or never manured. After the inhabitants have converted a tract of land into fields, which had been a foreſt for many centuries together, and which conſequently had a very

very fine ſoil, they uſe it as ſuch, as long as it will bear any corn; and when it ceaſes to bear any, they turn it into paſtures for the cattle, and take new corn-fields in another place, where a fine ſoil can be met with, and where it has never been made uſe of for this purpoſe. This kind of agriculture will do for ſome time; but it will afterwards have bad conſequences, as every one may clearly ſee. A few of the inhabitants, however, treated their fields a little better: the *Engliſh* in general have carried agriculture to a higher degree of perfection than any other nation. But the depth and riches of the ſoil, which thoſe found here who came over from *England*, (as they were preparing land for ploughing which had been covered with woods from times immemorial) miſled them, and made them careleſs huſbandmen. It is well known, that the *Indians* lived in this country for ſeveral centuries before the *Europeans* came into it; but it is likewiſe known, that they lived chiefly by hunting and fiſhing, and had hardly any fields. They planted maiz, and ſome ſpecies of beans and gourds; and at the ſame time it is certain, that a plantation of ſuch vegetables as ſerve an *Indian* family during one year, take up no more ground than a farmer in our country takes to plant cabbage for his family upon; at leaſt, a farmer's cabbage and turnip ground, taken together, is always as extenſive, if not more ſo, than the corn-fields and kitchen-gardens of an *Indian* family. Therefore, the *Indians* could hardly ſubſiſt for one month upon the produce of their gardens and

and fields. Commonly, the little villages of *Indians* are about twelve or eighteen miles diſtant from each other. From hence one may judge, how little ground was formerly employed for corn fields; and the reſt was ovrgrown with thick and tall trees. And though they cleared (as is yet uſual) new ground, as ſoon as the old one had quite loſt its fertility; yet ſuch little pieces as they made uſe of were very inconſiderable, when compared to the vaſt foreſts which remained. Thus the upper fertile ſoil increaſed conſiderably, for centuries together; and the *Europeans* coming to *America* found a rich and fine ſoil before them, lying as looſe between the trees as the beſt bed in a garden. They had nothing to do but to cut down the wood, put it up in heaps, and to clear the dead leaves away. They could then immediately proceed to ploughing, which in ſuch looſe ground is very eaſy; and having ſown their corn, they got a moſt plentiful harveſt. This eaſy method of getting a rich crop has ſpoiled the *Engliſh* and other *European* inhabitants, and induced them to adopt the ſame method of agriculture which the *Indians* make uſe of; that is, to ſow uncultivated grounds, as long as they will produce a crop without manuring, but to turn them into paſtures as ſoon as they can bear no more, and to take in hand new ſpots of ground, covered ſince time immemorial with woods, which have been ſpared by the fire or the hatchet ever ſince the creation. This is likewiſe the reaſon why agriculture, and the knowledge of this uſeful branch, is ſo imperfect here, that one

can

can learn nothing in a great tract of land, neither of the *Engliſh*, nor of the *Swedes*, *Germans*, *Dutch*, and *French*; except that, from their groſs miſtakes and careleſſneſs for futurity, one finds opportunities every day of making all ſorts of obſervations, and of growing wiſe at the expence of other people. In a word, the cornfields, the meadows, the foreſts, the cattle, &c. are treated with great careleſſneſs by the inhabitants. We can hardly be more laviſh of our woods in *Sweden* and *Finland* than they are here: their eyes are fixed upon the preſent gain, and they are blind to futurity. Every day their cattle are harraſſed by labour, and each generation decreaſes in goodneſs and ſize, by being kept ſhort of food, as I have before mentioned. On my travels in this country I obſerved ſeveral plants, which the horſes and cows preferred to all others. They were wild in this country, and likewiſe grew well on the drieſt and pooreſt ground, where no other plants would ſucceed. But the inhabitants did not know how to turn this to their advantage; owing to the little account made of Natural Hiſtory, that ſcience being here (as in other parts of the world) looked upon as a mere trifle, and the paſtime of fools. I am certain, and my certainty is founded upon experience, that by mean of theſe plants, in the ſpace of a few years, I have been able to turn the pooreſt ground, which would hardly afford food for a cow, into the richeſt and moſt fertile meadow, where great flocks of cattle have found ſuperfluous food, and are grown fat upon. I own, that theſe uſeful plants were not

not to be found on the grounds of every planter; but with a ſmall ſhare of natural knowledge, a man would eaſily collect them in the places where they were to be got. I was aſtoniſhed, when I heard the country people complaining of the badneſs of the paſtures; but I likewiſe perceived their negligence, and often ſaw excellent plants growing on their own grounds, which only required a little more attention and aſſiſtance from their unexperienced owners. I found every where the wiſdom and goodneſs of the Creator; but too ſeldom ſaw any acknowledgment, or adequate eſtimation of it, among men.

O fortunatos nimium ſua ſi bona norint
Agricolas! VIRG. Georgic.

I HAVE been led to theſe reflections, which may perhaps ſeem foreign to my purpoſe, by the bad and neglected ſtate of agriculture in every part of this continent. I likewiſe intended to ſhew the reaſon why this journal is ſo thinly ſtocked with œconomical advantages in the ſeveral branches of huſbandry. I do not however deny, that I have ſometimes found one or two ſkilful œconomiſts, but they were very ſcarce.

BIRDS of prey which purſue the poultry are found in abundance here, and if poſſible more plentiful than in *Sweden*. They enjoy great liberty here, as there are ſtill great foreſts in many places, from whence they can come unawares upon chickens and ducks. To the birds of prey it is quite indifferent whether the woods conſiſt of good or bad trees, provided they are in ſhade. At night the owls, which are very

numerous, endanger the ſafety of the tame fowls. They live chiefly in marſhes, give a diſagreeable ſhriek at night, and attack the chickens, which commonly rooſt at night in the apple-trees, peach-trees, and cherry trees, in the garden. But ſince they are very buſy in clearing this country of woods, as we are in *Sweden* and *Finland*, it may be of uſe for expoſing the birds of prey, more than they are now, and for depriving them of the opportunities of doing miſchief with ſo much eaſe.

The thick foreſts of *America* contain numbers of ſtags; they do not ſeem to be a different ſpecies from the *European* ſtags. An *Engliſhman* was poſſeſſed of a tame hind. It is obſervable that though theſe creatures are very ſhy when wild in the woods and cedar ſwamps, which are very much frequented by them, yet they can be tamed to ſuch a degree, if taken young, that they will come of their own accord to ſeek for food: This hind was caught when it was but very little; the colour of the whole body was a dirty reddiſh brown, the belly and the under ſide of the tail excepted, which were white; the ears were grey; the head, towards the ſnout, was very narrow, but upon the whole the creature looked very fine. The hair lay cloſe together, and was quite ſhort; the tail reached almoſt to the bend of the knee, near which, on the inſide of each hind-foot, was a *knob* or *callus*. The poſſeſſor of the hind ſaid, that he had tamed ſeveral ſtags, by catching them whilſt they were very young. It was now big with young ones. It had a little bell hung about its neck, that by walking in

the woods, the people might know it to be tame, and take care not to ſhoot it. It was at liberty to go where it pleaſed, and to keep it confined would have been a pretty hard taſk, as it could leap over the higheſt encloſures. Sometimes it went far into the woods, and frequently ſtaid away a night or two, but afterwards returned home like other cattle. When it went into the woods, it was often accompanied by wild ſtags, and decoyed them even into the very houſes, eſpecially in rutting time, giving its maſter numerous opportunities of ſhooting the wild ſtags, almoſt at his door. Its ſcent was excellent, and when it was turned towards the wind, I often ſaw it riſing and looking towards that part, though I did not ſee any people on the road, but they commonly appeared about an hour after. As ſoon as the wild ſtags have the ſcent of a man, they make off. In winter the man fed the hind with corn and hay; but in ſummer it went out into the woods and meadows, ſeeking its own food, eating both graſs and other plants: it was now kept in a meadow; it did chiefly eat clover, the leaves of hiccory, of the *Andromeda paniculata*, and the *Geranium maculatum*. It was likewiſe contented with the leaves of the common plantane, or *Plantago*, graſſes, and ſeveral other plants. The poſſeſſor of this hind ſold ſtags to people in *Philadelphia*, who ſent them as curioſities to other places. He got twenty-five, thirty, and forty ſhillings apiece for them. In the long and ſevere winter, which commenced here upon the tenth of *December*, 1740, and continued to the thir-

teenth of *March*, old ſtile, during the courſe of which there fell a great quantity of ſnow, the ſtags were found dead in the ſnow, but chiefly higher up the country, where the ſnow was deeper. Nobody could determine whether their death was the conſequence of the great quantity and depth of ſnow, which hindered their getting out, or whether the froſt had been too ſevere, and of too long duration, or whether they were ſhort of food. The old people likewiſe relate, that vaſt numbers of ſtags came down in the year 1705, when there was a heavy fall of ſnow, near a yard deep, and that they were afterwards found dead in the woods, in great numbers, becauſe the ſnow was deeper than they could paſs through. Numbers of Birds were likewiſe found dead at that time. In that ſame winter, a ſtag came to *Matſong* into the ſtables, and eat hay together with the cattle. It was ſo pinched by hunger, that it grew tame immediately, and did not run away from people. It afterwards continued in the houſe, as another tame creature. All aged perſons aſſerted, that formerly this country abounded more with ſtags than it does at preſent. It was formerly not uncommon to ſee thirty or forty of them in a flock together. The reaſon of their decreaſe is chiefly owing to the increaſe of population, the deſtruction of the woods, and the number of people who kill and frighten the ſtags at preſent. However, high up in the country, in great foreſts and deſarts, there are yet great numbers of them. Among their enemies is the *Lynx* of this country, which is the ſame with the

the *Swediſh* one *. They climb up the trees, and when the ſtags paſs by, they dart down upon him, get faſt hold, bite, and ſuck the blood, and never give over till they have killed it.

I ſaw ſeveral holes in the ground, both on hills and on fields, and fallow grounds; they were round, and commonly about an inch wide; they went almoſt perpendicularly into the earth, and were made by dung-beetles, or by great worms, which are made uſe of for angling. The dung beetles had dug very deep into the ground, thro' horſe-dung, tho' it lay on the hardeſt road, ſo that a great heap of earth lay near it. Theſe holes were afterwards occupied by other inſects, eſpecially graſshoppers, *(Grylli)* and *Cicadæ*; for by digging theſe holes up, I commonly found one or more young ones of theſe inſects, which had not yet got their perfect ſize.

May 19th. THIS morning I left *Racoon*, a a pariſh in the country called *New Sweden*, and which is yet chiefly inhabited by *Swedes*, in in order to proceed in my travels to the North. I firſt intended to ſet out with the begining of *April*, but for ſeveral reaſons this was not adviſeable. No leaves were come out at that time, and hardly any flowers appeared. I did not know what flowers grew here in ſpring; for the

* *Warglo*; *Felis Lynx Linn.* The *Swedes* mention two kinds of lynx, the one is called the *Warglo*, or wolf-lynx, and the other the *Kattlo*, or cat-lynx. The *Germans* make the ſame diſtinction, and call the former *Wolf-luchs*, and the latter *Katz-luchs*. the former is the biggeſt, of a browniſh red, mixed with grey and white, on its back, and white towards the belly, with browniſh ſpots; the latter is ſmaller, and has a coat which is more white, and with more ſpots. F.

autumnal plants are different from the vernal ones. The *Swedes* had this winter told me the œconomical and medical uſes of many plants, to which they gave names unknown to me: they could not then ſhew me thoſe plants on account of the ſeaſon, and by their deficient and erroneous deſcriptions, I was not able to gueſs what plants they meant. By going away ſo early as the beginning of *April*, I would have remained in uncertainty in regard to theſe things. It was therefore fit, that I ſhould ſpend a part of the ſpring at *Raccoon*, eſpecially as I had ſtill time enough left for my tour to the North.

On the road we ſaw a *Black Snake*, which we killed, and found juſt five feet long. *Cateſby* has deſcribed it and its qualities, and alſo drawn it*. The full-grown Black Snakes are commonly about five feet long, but very ſlender; the thickeſt I ever ſaw was in the broadeſt part hardly three inches thick; the back is black, ſhining, and ſmooth; the chin white and ſmooth; the belly whitiſh turning into blue, ſhining, and very ſmooth; I believe there are ſome varieties of this ſnake. One which was nineteen inches long, had an hundred and eighty-ſix ſcales on the belly, *(Scuta Abdominalia)* and ninety-two half ſcales on the tail *(Squamæ ſubcaudales)*, which I found to be true, by a repeated counting of the ſcales. Another, which was ſeventeen inches and a half in length, had a hundred and eighty-four ſcales on the

* *Anguis niger*. See *Cateſby's* Nat. Hiſt. of Carol. ii. t. 48.

belly,

belly, and only sixty-four half scales on the tail; this I likewise assured myself of, by counting the scales over again. It is possible that the end of this last snake's tail was cut off, and the wound healed up again †.

The country abounds with Black Snakes. They are among the first that come out in spring, and often appear very early if warm weather happens; but if it grows cold again after that, they are quite frozen, and lie stiff and torpid on the ground or on the ice; when taken in this state and put before a fire, they revive in less than an hour's time. It has sometimes happened, when the beginning of *January* is very warm, that they come out of their winter habitations. They commonly appear about the end of *March*, old style.

This is the swiftest of all the snakes which are to be found here, for it moves so quick, that a dog can hardly catch it. It is therefore almost impossible for a man to escape it if pursued: but happily its bite is neither poisonous nor any way dangerous; many people have been

† It has been found by repeated experience, that the specific character employed by Dr. *Linnæus*, for the distinction of the species of snakes, taken from their *Scuta abdominalia & caudalia*, or their *Squamæ subcaudales*, varies greatly in snakes of the same species, so that often the difference amounts to ten or more: the whole number of the scuta sometimes helps to find out the species; care ought however to be taken, that the snake may not by any accident have lost its tail, and that it be growing again; in which case, it is impossible to make use of this character. The character is not quite so good and decisive, as may be wished, but neither are the marks taken from colours, spots, stripes, &c. quite constant; and so it is better to make use of an imperfect character, than none at all. Time, and greater acquaintance with this class of animals may perhaps clear up their natural characters. F.

bit by it in the woods, and have ſcarce felt any more inconvenience than if they had been wounded by a knife; the wounded place only remains painful for ſome time. The Black Snakes ſeldom do any harm, except in ſpring, when they copulate; at which time, if diſturbed, they will attack the perſon that diſturbs them. I am acquainted with ſeveral people, who have on ſuch an occaſion run ſo hard as to be quite out of breath, in endeavouring to eſcape the ſnake, which moved with the ſwiftneſs of an arrow after them. If a perſon thus purſued can muſter up courage enough to oppoſe the ſnake with a ſtick or any thing elſe, when it is either paſſed by him, or when he ſteps aſide to avoid it, it will turn back again, and ſeek a refuge in its ſwiftneſs. I have been aſſured by ſeveral, that when it overtakes a perſon, who has tried to eſcape it, and who has not courage enough to oppoſe it, it winds round his feet, ſo as to make him fall down; it then bites him ſeveral times in the leg, or whatever part it can get hold of, and goes off again. I ſhall mention two circumſtances, which confirm what I have ſaid. During my ſtay in *New York*, Dr. *Colden* told me, that in the ſpring, 1748, he had ſeveral workmen at his country ſeat, and among them one lately arrived from *Europe*, who of courſe knew very little of the qualities of the Black Snake. The other workmen ſeeing a great Black Snake copulating with its female, engaged the new comer to go and kill it, which he intended to do with a little ſtick. But on approaching the place where the ſnakes lay, they perceived him, and the

the male in great wrath leaves his pleaſure to purſue the fellow with amazing ſwiftneſs; he little expected ſuch courage in the ſnake, and flinging away his ſtick, began to run as faſt as he was able. The ſnake purſued him, overtook him, and twiſting ſeveral times round his feet, threw him down, and frightened him almoſt out of his ſenſes; he could not get rid of the ſnake, till he took a knife and cut it through in two or three places. The other workmen were rejoiced at this ſight, and laughed at it, without offering to help their companion. Many people at *Albany* told me of an accident which happened to a young lady, who went out of town in ſummer, together with many other girls, attended by her negro. She ſat down in the wood, in a place where the others where running about, and before ſhe was aware, a Black Snake being diſturbed in its amours, ran under her petticoats, and twiſted round her waiſt ſo that ſhe fell backwards in a ſwoon occaſioned by her fright, or by the compreſſion which the ſnake cauſed. The negro came up to her, and ſuſpecting that a Black Snake might have hurt her, on making uſe of a remedy to bring his lady to herſelf again, he lifted up her cloaths, and really found the ſnake wound about her body as cloſe as poſſible; the negro was not able to tear it away, and therefore cut it, and the girl came to herſelf again; but ſhe conceived ſo great an averſion to the negro, that ſhe could not bear the ſight of him afterwards, and died of a conſumption. At other times of the year this ſnake is more apt to run away, than to attack people. However I have heard it aſſerted frequently,

frequently, that even in ſummer when its time of copulation is paſt, it purſues people, eſpecially children, if it finds that they are afraid and run from her. Several people likewiſe aſſured me from their own experience, that it may be provoked to purſue people, if they throw at it, and then run away. I cannot well doubt of this, as I have heard it ſaid by numbers of creditable people; but though I wanted to try the experiment I could never ſucceed in provoking them.

Moſt of the people in this country aſcribed to this ſnake a power of faſcinating birds and ſquirrels, as I have deſcribed in ſeveral parts of my Journal. When the ſnake lies under a tree, and has fixed his eyes on a bird or ſquirrel above; it obliges them to come down, and to go directly into its mouth. I cannot account for this, for I never ſaw it done. However, I have a liſt of more than twenty perſons, among which are ſome of the moſt creditable people, who have all unanimouſly, though living far diſtant from each other, aſſerted the ſame thing; they aſſured me upon their honour, that they have ſeen (at ſeveral times) theſe Black Snakes faſcinating ſquirrels and birds which ſat on the tops of trees, the ſnake lying at the foot of the tree, with its eyes fixed upon the bird or ſquirrel, which ſits above it, and utters a doleful note; from which it is eaſy to conclude with certainty that it is about to be faſcinated, though you cannot ſee it. The bird or ſquirrel runs up and down along the tree continuing its plaintive ſong, and always comes nearer the ſnake, whoſe eyes are unalterably fixed upon it. It ſhould ſeem as if theſe poor

poor creatures endeavoured to eſcape the ſnake, by hopping or running up the tree; but there appears to be a power which with-holds them: they are forced downwards, and each time that they turn back, they approach nearer their enemy, till they are at laſt forced to leap into its mouth, which ſtands wide open for that purpoſe. Numbers of ſquirrels and birds are continually running and hopping fearleſs in the woods on the ground, where the ſnakes ly in wait for them, and can eaſily give theſe poor creatures a mortal bite. Therefore it ſeems that this faſcination might be thus interpreted, that the creature has firſt got a mortal wound from the ſnake, which is ſure of her bite, and lies quiet, being aſſured that the wounded creature has been poiſoned with the bite, or at leaſt feels pain from the violence of the bite, and that it will at laſt be obliged to come down into its mouth. The plaintive note is perhaps occaſioned by the acuteneſs of the pain which the wound gives the creature. But to this it may be objected, that the bite of the Black Snake is not poiſonous; it may further be objected, that if the ſnake could come near enough to a bird or ſquirrel to give it a mortal bite, it might as eaſily keep hold of it, or, as it ſometimes does with poultry, twiſt round and ſtrangle or ſtifle it. But the chief objection which lies againſt this interpretation, is the following account, which I received from the moſt creditable people, who have aſſured me of it. The ſquirrel being upon the point of running into the ſnake's mouth, the ſpectators have not been

able

able to let it come that pitch, but killed the ſnake, and as ſoon as it had got a mortal blow, the ſquirrel or bird deſtined for deſtruction, flew away, and left off their moanful note, as if they had broke looſe from a net. Some ſay, that if they only touched the ſnake, ſo as to draw off its attention from the ſquirrel, it went off quickly, not ſtopping till it had got to a great diſtance. Why do the ſquirrels or birds go away ſo ſuddenly, and why no ſooner? If they had been poiſoned or bitten by the ſnake before, ſo as not to be able to get from the tree, and to be forced to approach the ſnake always more and more, they could however not get new ſtrength by the ſnake being either killed or diverted. Therefore, it ſeems that they are only *enchanted*, whilſt the ſnake has its eyes fixed on them. However, this looks odd and unaccountable, though many of the worthieſt and moſt reputable people have related it, and though it is ſo univerſally believed here, that to doubt it would be to expoſe one's ſelf to general laughter.

The black ſnakes kill the ſmaller ſpecies of frogs, and eat them. If they get at eggs of poultry, or of other birds, they make holes in them, and ſuck the contents. When the hens are ſitting on the eggs, they creep into the neſt, wind round the birds, ſtifle them, and ſuck the eggs. Mr. *Bartram* aſſerted, that he had often ſeen this ſnake creep up into the talleſt trees, after bird's eggs, or young birds, always with the head foremoſt, when deſcending. A *Swede* told me, that a black ſnake had once got the head of one of his hens in its mouth, and was wound

ſeveral

ſeveral times round the body, when he came and killed the ſnake. The hen was afterwards as well as ever.

THIS ſnake is very greedy of milk, and it is difficult to keep it out, when it is once uſed to go into a cellar where milk is kept. It has been ſeen eating milk out of the ſame diſh with children, without biting them, though they often gave it blows with the ſpoon upon the head, when it was over-greedy. I never heard it hiſſing. It can raiſe more than one half of its body from the ground, in order to look about her. It ſkins every year; and its ſkin is ſaid to be a remedy againſt the cramp, if continually worn about the body.

THE rye was now beginning to flower.

I have often obſerved with aſtoniſhment, on my travels, the great difference between the plants and the ſoil, on the two oppoſite banks of brooks. Sometimes a brook, which one can ſtride over, has plants on one bank widely different from thoſe on the oppoſite bank. Therefore, whenever I came to a great brook or a river, I expected to find plants which I had not met with before. Their ſeeds are carried down with the ſtream from diſtant parts. The ſoil is likewiſe very often different on the different ſides of a rivulet, being rich and fertile on the one, and dry, barren, and ſandy on the other. But a great river can make ſtill greater differences. Thus we ſee the great diſparity between the province of *Penſylvania*, and *New Jerſey*, which are only divided by the river *Delaware*. In *Penſylvania* the ſoil conſiſts of a mould mixed with

with ſand and clay, and is very rich and fertile: and in the woods which are higher in the country, the ground is mountainous and ſtony. On the other hand, in the province of *New Jerſey*, the ſoil is poor and dry, and not very fertile, ſome parts excepted. You can hardly find a ſtone in *New Jerſey*, and much leſs mountains. In *Penſylvania* you ſcarce ever ſee a fir-tree, and in *New Jerſey* are whole woods of it.

This evening I arrived at *Philadelphia*.

May 22d. The locuſts began to creep out of their holes in the ground laſt night, and continued to do ſo to-day, As ſoon as their wings were dry, they began their ſong, which is almoſt ſufficient to make one deaf, when travelling through the woods. This year there was an immenſe number of them.

May 25th. The tulip-tree (*Liriodendron tulipifera*) was now in full bloſſom. The flowers have a reſemblance to tulips, and look very fine, and though they have not a very agreeable ſmell, yet the eye is pleaſed to ſee trees as tall as full-grown oaks, covered with tulip-like flowers.

On the flowers of the tulip-tree was an olive-coloured *Chafer* (*Scarabæus*) without horns (*muticus*) the future and borders of his wing-ſhells (*Elytræ*) were black, and his thighs brown. I cannot with certainty ſay whether they collected the pollen of the flower, or whether they coupled. Later in ſummer, I ſaw the ſame kind of beetles make deep holes into the ripe mulberries, either to eat them, or to lay their eggs in them. I likewiſe found them abundant in

the leaves of the *Magnolia glauca*, or beaver-tree.

THE ſtrawberries were now ripe on the hills.

THE country people already brought ripe cherries up to town; but they were only a few to ſatisfy curioſity, yet we may form a judgment of the climate from hence.

May 26th. A peculiar kind of ſtorm called a *Travat*, or *Travado*, happened to-day. In the evening about ten o'clock, when the ſky was quite clear, a thick, black cloud came ruſhing from the ſouth-weſt, with a wind. The air was quite calm, and we could not feel any breeze. But the approach of this cloud was perceived from the ſtrong ruſhing noiſe in the woods to the ſouth-weſt, and which encreaſed in proportion as the cloud came nearer. As ſoon as it was come up to us, it was attended by a violent guſt of wind, which in its courſe threw down the weaker encloſures, carried them a good way along with it, and broke down ſeveral trees. It was then followed by a hard ſhower of rain, which put an end to the ſtorm, and every thing was calm as before. Theſe travadoes are frequent in ſummer, and have the quality of cooling the air. However, they often do a deal of damage. They are commonly attended by thunder and lightning; as ſoon as they are paſſed over, the ſky is as clear as it was before.

May 28th. THE *Magnolia glauca* was now in full bloom. Its flowers have a very pleaſant fragrancy, which refreſhes the travellers in the woods,

woods, eſpecially towards the evening. The flowers of the wild vine afterwards ſupplied the place of thoſe of the Magnolia. Several other flowers contribute likewiſe towards perfuming the ambient air.

The *Kalmia anguſtifolia* was now every where in flower. It grows chiefly on ſandy heaths, or on dry poor grounds, which few other plants will agree with; it is common in *Penſylvania*, but particularly in *New Jerſey*, and the province of *New York*, it is ſcarce in *Canada*; its leaves ſtay the winter; the flowers are a real ornament to the woods; they grow in bunches like crowns, and are of a fine lively purple colour; at the bottom is a circle of deep purple, and within it a greyiſh or whitiſh colour. The flowers grow as aforeſaid, in bunches, round the extremity of the ſtalk, and make it look like a decorated pyramid. The *Engliſh* at *New York* call this plant the *Dwarf Laurel*. Its qualities are the ſame with thoſe of the *Kalmia latifolia* viz. that it kills ſheep and other leſſer animals, when they eat plentifully of it. I do not know whether it is noxious to the greater cattle. It is not of any known uſe, and only ſerves to attract the eye whilſt in flower.

The *Kalmia latifolia* was likewiſe in full bloſſom at preſent. It rivals the preceding one, in the beauty of its colour; yet though they are conſpicuous in regard to the colours and ſhape of their flowers, they are no ways remarkable for ſmell, ſuch as the *Magnolia* is; for they have little or no ſmell at all. So equally and juſtly does nature diſtribute her gifts; no part

part of the creation has them all, each has its own, and none is abſolutely without a ſhare of them.

May 30th. THE *Moravian Brethren*, who arrived in great numbers from *Europe* at *New York*, in *May*, brought two converted *Greenlanders* with them. The *Moravians* who were already ſettled in *America*, immediately ſent ſome of their brethren from *Philadelphia* to the new comers, in order to welcome them. Among theſe deputies were two *North American Indians*, who had been converted to their doctrine, and likewiſe two *South American Indians*, from *Surinam*. Theſe three kinds of converted *Indians* accordingly met at *New York*. I had no opportunity of ſeeing them; but all thoſe who had ſeen them, and whom I converſed with, thought that they had plainly perceived a ſimilarity in their features and ſhape, the *Greenlanders* being only ſomewhat ſmaller. They concluded from hence, that all theſe three kinds of *Americans* were the poſterity of one and the ſame deſcendant of *Noah*, or that they were perhaps yet more nearly related. How far their gueſſes are to be relied upon, I cannot determine.

RIPE cherries were now already pretty common, and conſequently cheap.

YAMS are a ſpecies of roots, which are cultivated in the hotteſt parts of *America*, for eating as we do potatoes. It has not yet been attempted to plant them here, and they are brought from the *Weſt Indies* in ſhips; therefore they are reckoned a rarity here, and as ſuch I ate them at Dr. *Franklin*'s to-day. They are white,

and taſte like common potatoes, but not quite ſo agreeable; and I think it would not be worth while to plant them in *Sweden*, though they might bear the climate. The plant theſe roots belong to is the *Dioſcorea alata*.

THE inhabitants make plenty of cheeſe. They are not reckoned ſo good as *Engliſh* cheeſe: however, ſome take them to be full as good when old; and ſo they ſeemed to me. A man from *Boſton* in *New-England* told me, that they made very good cheeſe there: but they take care to keep the cattle from ſalt-water, eſpecially thoſe who live near the ſea-coaſts; for it has been found, that the cheeſe will not become ſo good when the cows graze near ſalt-water, as it will when they have freſh water. This, however, wants nearer examination, in my opinion.

May 31ſt. ABOUT noon I left *Philadelphia*, and went on board a ſmall yacht, which ſails continually up and down upon the river *Delaware*, between *Trenton* and *Philadelphia*. We ſailed up the river with fair wind and weather. *Sturgeons* leaped often a fathom into the air. We ſaw them continuing this exerciſe all day, till we came to *Trenton*. The banks on the *Penſylvanian* ſide were low; and thoſe on the *New Jerſey* ſide ſteep and ſandy, but not very high. On both ſides were perceived foreſts of tall trees, with *deciduous* leaves.

DURING the courſe of this month, the forenoon was always calm; but immediately after noon it began to blow gently, and ſometimes pretty ſtrongly. This morning was likewiſe fair;

fair; and in the afternoon it was cloudy, but did not rain.

We ſaw ſome ſmall houſes near the ſhore, in the woods; and, now and then, a good houſe built of ſtone. The river now decreaſed viſibly in breadth. About three o'clock this afternoon we paſſed *Burlington*.

Burlington, the chief town in the province of *New Jerſey*, and the reſidence of the governor, is but a ſmall town, about twenty miles from *Philadelphia*, on the eaſtern ſide of the *Delaware*. The houſes were chiefly built of ſtone, though they ſtood far diſtant from each other. The town has a good ſituation, ſince ſhips of conſiderable burden can ſail cloſe up to it: but *Philadelphia* prevents its carrying on an extenſive trade; for the proprietors of that place * have granted it great immunities, by which it is increaſed ſo as to ſwallow all the trade of the adjacent towns. The houſe of the governor at *Burlington* is but a ſmall one: it is built of ſtone, cloſe by the river ſide, and is the firſt building in the town as you come from *Philadelphia*. It is obſerved, that about the full moons, when the tides are higheſt, and the high water at *Cape Hinlopen* comes at nine o'clock in the morning, it will be at *Cheſter*, on the river *Delaware*, about ten minutes after one o'clock; at *Philadelphia*, about ten minutes after two o'clock; and at *Burlington*, about ten minutes after three o'clock; for the tide in the river *Delaware* comes quite up to *Trenton*.

* *William Penn*, Eſq. and his heirs after him.

THE banks of the river were now chiefly high and ſteep on the ſide of *New Jerſey*, conſiſting of a pale brick-coloured ſoil. On the *Penſylvanian* ſide, they were gently ſloping, and conſiſted of a blackiſh rich mould, mixed with particles of Glimmer *(Mica)*. On the *New Jerſey* ſide appeared ſome firs; but ſeldom on the other, except in a few places where they were accidentally brought over from *New Jerſey*.

TOWARDS night, after the tide had begun to ebb and the wind was quite ſubſided, we could not proceed, but dropped our anchor about ſeven miles from *Trenton*, and paſſed the night there. The woods were full of *Fireflies*, (*Lampyris*) which flew like ſparks of fire between the trees, and ſometimes acroſs the river. In the marſhes, the *Bullfrogs* now and then began their hideous roaring; and more than a hundred of them roared together. The *Whip-poor-will*, or *Goat-ſucker*, was likewiſe heard every where.

June 1ſt. WE continued our voyage this morning, after the rain was over. The river *Delaware* was very narrow here, and the banks the ſame as we found them yeſterday, after we had paſſed *Burlington*. About eight o'clock in the morning we arrived at *Trenton*.

June 2d. THIS morning we left *Trenton*, and proceeded towards *New York*. The country I have deſcribed before. The fields were ſown with wheat, rye, maize, oats, hemp, and flax. In ſeveral places, we ſaw very large pieces of ground with hemp.

WE

We ſaw abundance of cheſnut-trees in the woods. They often ſtood in exceſſive poor ground, which was neither too dry nor too wet.

Tulip-trees did not appear on the road; but the people ſaid there were ſome in the woods.

The *Beaver-tree (Magnolia glauca)* grows in the ſwamps. It was now in flower, and the fragrancy of its bloſſoms had ſo perfumed the air, that one could enjoy it before one approached the ſwamps; and this fine ſmell likewiſe ſhewed that a beaver tree was near us, though we often happened not to ſee it.

The *Phlox Glaberrima* grows abundantly in the woods, and cuts a fine figure with its red flowers. It grows in ſuch ſoil here as in *Europe* is occupied by the *Lychnis viſcaria* and *Lychnis dioica*, or read Catchfly and Campion. The *Phlox maculata* grows abundantly in wet ground, and has fine red and odoriferous flowers. It grows on low meadows, where in *Europe* the Meadow-pinks, or *Lychnis flos cuculi*, would be met with. By adding to theſe flowers the *Bartſia coccinea*, the *Lobelia cardinalis*, and the *Monarda didyma*, which grow wild in this country, they are undoubtedly altogether adorned with the fineſt red imaginable.

The *Saſſafras-tree* was abundant in the woods, and near the incloſures.

The houſes which we paſſed by were moſt of them wooden. In one place, I ſaw the people building a houſe with walls of mere clay, which is likewiſe employed in making ovens for baking.

BUCKWHEAT was already coming up in ſeveral places. We ſaw ſingle plants of it all day in the woods, and in the fields, but always by the ſide of the road; from whence it may be concluded, that they ſpring up from loſt and ſcattered ſeeds.

LATE this evening we arrived at *New Brunſwick*.

June the 3d. AT noon we went on board a yacht bound for *New York*, and ſailed down the river, which had at firſt prety high and ſteep banks, of red ſand-ſtone, on each ſide, which I have mentioned before. Now and then there was a farm-houſe on the high ſhore. As we came lower down, we ſaw on both ſides great fields and meadows, cloſe up to the water. We could not ſail at random with the yacht; for the river was often ſhallow in ſome places, and ſometimes in the very middle. For that purpoſe, the courſe which we were to take was marked out by branches with leaves on them. At laſt we got into the ſea, which bounded our proſpect on the ſouth; but on the other ſide, we were continually in ſight of land at ſome diſtance. On coming to the mouth of the river, we had a choice of two roads to *New York*; *viz.* either within the *Staten Iſland*, or without it. The inhabitants are determined in their choice by the weather; for when it is ſtormy and cloudy, or dark, they do not venture to ſail without, where the ſea itſelf communicates. We took that courſe now, it being very pleaſant weather; and though we ſtruck on the ſands once

once or twice, yet we got looſe again, and arrived at *New York* about nine o'clock.

June 4th. I FOUND vines in ſeveral gardens, got from the old countries. They bear annually a quantity of excellent grapes. When the winters are very ſevere, they are killed by the froſt, and die quite to the ground; but the next ſpring new ſhoots ſpring up from the root.

STRAWBERRIES were now ſold in abundance about the town every day. An *Engliſhman* from *Jamaica* aſſerted, that in that iſland there were no ſtrawberries. The ſnakes are very fond of ſtrawberries. Thoſe which they had here were ſo good as the *Swediſh* and *Finland* ones.

RED CLOVER was ſown in ſeveral places on the hills without the town. The country people were now employed in mowing the meadows. Some were already mown; and the dry clover was put under cover, in order to be carried away the firſt opportuninty.

CHERRY-TREES were planted in great quantities before the farm-houſes, and along the high-roads, from *Philadelphia* to *New Brunſwick*; but behind that place they became more ſcarce. On coming to *Staten Iſland*, in the province of *New York*, I found them very common again, near the gardens. Here are not ſo many varieties of cherries as there are in *Penſylvania*. I ſeldom ſaw any of the black ſweet cherries * at *New York*; but commonly the four red ones. All travellers are allowed to pluck ripe fruit as they paſs by. Between *New Brunſwick* and

* Commonly called *Black-heart Cherries*.

Staten Iſland, are a few cherry-gardens; but proportionarly more orchards, with apple-trees.

June 6th. SEVERAL gentlemen and merchants, between fifty and ſixty years of age, aſſerted, that during their life they had plainly found ſeveral kinds of fiſh decreaſe in number every year; and that they could not get near ſo many fiſh now as they could formerly.

RUM, a brandy prepared from the ſugar-canes, and in great uſe with all the *Engliſh North American* colonies, is reckoned much wholeſomer than brandy, made from wine or corn †. In confirmation of this opinion, they ſay, that if you put a piece of freſh meat into rum, and another into brandy, and leave them there for ſome months; that in the rum will keep as it was, but that in the brandy will be quite eaten, and full of holes. But this experiment does not ſeem a very accurate one to me. Major *Roderfort* told me, that being upon the *Canada* expedition, he had obſerved, that ſuch of his men as drank brandy for ſome time died of it; but thoſe who drank rum were not hurt, though they got drunk with it every day, and oftener than the others.

† That rum is among the ſpirituous liquors leſs noxious than any one of the reſt, is chiefly owing to the balſamic quality it gets from the ſugar, which corrects the ſtyptic quality all kinds of brandy and ſpirituous liquors have. The older the rum is, and the longer it has been kept in a great caſk, the more is its ſtyptiſity corrected. All which has been lately proved by the cleareſt experiments, explained and deducted from the moſt indiſputable principles of chemiſtry, in a pamphlet written by that able chemiſt Mr. *Diſſe*. F.

LONG-

LONG-ISLAND is the name of an iſland oppoſite the town of *New York*, in the Sea. The northern part of the iſland is much more fertile than the ſouthern. Formerly there lived a number of *Indians* on this iſland; and there are yet ſome, which however decreaſe in number every year, becauſe they leave the iſland. The ſoil of the ſouthern part of the iſland is very poor; but this deficiency is made up by a vaſt quantity of oyſters, lobſters, crabs, ſeveral kinds of fiſh, and numbers of water fowl, all which are there far more abundant than on the northern ſhores of the iſland. Therefore the *Indians* formerly choſe the ſouthern part to live in, becauſe they ſubſiſted on oyſters, and other productions of the ſea. When the tide is out, it is very eaſy to fill a whole cart with oyſters, which have been drived on ſhore by one flood. The Iſland is ſtrewed with oyſter-ſhells and other ſhells, which the *Indians* left there; theſe ſhells ſerve now for good manure for the fields. The ſouthern part of the iſland is turned into meadows, and the northern part into fields. The winter is more conſtant on the northern part, and the ſnow in ſpring lies longer there than on the ſouthern part. The people are very fertile here, and commonly tall and ſtrong.

June 10th. At noon we left *New York*, and and ſailed up the river *Hudſon*, in a yacht bound for *Albany*. All this afternoon we ſaw a whole fleet of little boats returning from *New York*, whither they had brought proviſions and other goods for ſale, which on account of the extenſive commerce of this town, and the great number

number of its inhabitants, go off very well. The river *Hudſon* runs from North to South here, exept ſome high pieces of land which ſometimes project far into it, and alter its direction; its breadth at the mouth is reckoned about a mile and a quarter. Some porpeſſes played and tumbled in the river. The eaſtern ſhore, or the *New York* ſide, was at firſt very ſteep and high; but the weſtern was very ſloping and covered with woods. There appeared farm-houſes on both ſides, ſurrounded with corn fields. The ground of which the ſteep ſhores conſiſted was of a pale brick colour, and ſome little rocks of a grey ſand-ſtone were ſeen here and there. About ten or twelve miles from *New York*, the weſtern ſhore appears quite different from what it was before; it conſiſts of ſteep mountains with perpendicular ſides towards the river, and they are exactly like the ſteep ſides of the mountains of *Hall* and *Hunnebarg* in *Weſt Gothland*. Sometimes a rock projects like the ſalliant angle of a baſtion: the tops of theſe mountains are covered with oaks, and other wood; a number of ſtones of all ſizes lay along the ſhore, having rolled down from the mountains.

THESE high and ſteep mountains continue for ſome *Engliſh* miles on the weſtern ſhore; but on the eaſtern ſide the land is high, and ſometimes diverſified with hills and valleys, which are commonly covered with deciduous trees, amongſt which there appears a farm now and then in a glade. The hills are covered with ſtones in ſome places. About twelve miles from

New

New York we ſaw *Sturgeons* (Acipenſer ſturio)*, leaping up out of the water, and on the whole paſſage we met with porpeſſes in the river. As we proceeded we found the eaſtern banks of the river very much cultivated; and a number of pretty farms, ſurrounded with orchards and fine corn-fields, preſented themſelves to our view. About twenty-two miles from *New York*, the high mountains which I have before mentioned left us, and made as it were a high ridge here from eaſt to weſt quite acroſs the country. This altered the face of the country on the weſtern ſhore of the river: from mountainous, it became interſperſed with little vallies and round hillocks, which were ſcarce inhabited at all; but the eaſtern ſhore continued to afford us a delightful proſpect. After ſailing a little while in the night, we caſt our anchor and lay here till the morning, eſpecially as the tide was ebbing with great force.

June 11th. THIS morning we continued our voyage up the river, with the tide and a faint breeze. We now paſſed the *Highland* mountains, which were to the Eaſt of us; they conſiſt of a grey ſand-ſtone, are very high and pretty ſteep, and covered with deciduous trees, and likewiſe with firs and red cedars. The weſtern ſhore was full of rocks, which however did not come up to the height of the mountains on the oppoſite ſhore; the tops of theſe eaſtern mountains were cut off from our ſight by a thick

* The *New-York* Sturgeons which I ſaw this year brought over, had ſhort blunt noſes, in which particular they are different from the *Engliſh* ones, which have long noſes. F.

fog

fog which ſurrounded them. The country was unfit for cultivation, being ſo full of rocks, and accordingly we ſaw no farms. The diſtance from theſe mountains to *New York* is computed at thirty-ſix *Engliſh* miles.

A thick fog now roſe up from the high mountains. For the ſpace of ſome *Engliſh* miles, we had hills and rocks on the weſtern banks of the river; and a change of leſſer and greater mountains and vallies covered with young firs, red cedars, and oaks, on the eaſtern ſide. The hills cloſe to the river ſide are commonly low, but their height increaſes as they are further from the river. Afterwards we ſaw, for ſome miles together, nothing but high round mountains and vallies, both covered with woods; the vallies are in reality nothing but low rocks, and ſtand perpendicular towards the river in many places. The breadth of the river is ſometimes two or three muſket-ſhot, but commonly not above one; every now and then we ſaw ſeveral kinds of fiſh leaping out of the water. The wind vaniſhed away about ten o'clock in the morning, and forced us to get forwards with our oars, the tide being almoſt ſpent.

The water in the river has here no more a brackiſh taſte; yet I was told that the tide, eſpecially when the wind is South, ſometimes carries the ſalt water up higher with it. The colour of the water was likewiſe altered, for it appeared darker here than before. To account for the firſt origin of rivers is very difficult, if not wholly impoſſible; ſome rivers may have come from a great reſervoir of water, which being

being conſiderably encreaſed by heavy falls of rain or other circumſtances, paſſed its old bounds and flowed to the lower countries, through the places where it met with the leaſt oppoſition. This is perhaps the reaſon why ſome rivers run in ſo many bendings equally through fields of ſoft earth, as likewiſe there, where mountains, rocks, and ſtones, divert their paſſage. However it ſeems that ſome rivers derive their firſt origin from the creation itſelf, and that Providence then pointed out their courſe; for their exiſtence can, in all probability, not be owing to the accidental eruption of water alone. Among theſe rivers we may rank the river *Hudſon*: I was ſurpriſed on ſeeing its courſe, and the variety of its ſhores. It takes its riſe a good way above *Albany*, and deſcends to *New York*, in a direct line from North to South, which is a diſtance of about a hundred and ſixty *Engliſh* miles, and perhaps more; for the little bendings which it makes are of no ſignification. In many places between *New York* and *Albany*, are ridges of high mountains running Weſt and Eaſt. But it is remarkable that they go on undiſturbed till they come to the river *Hudſon*, which cuts directly acroſs them, and frequently their ſides ſtand perpendicular towards the river. There is an opening left in the chain of mountains, as broad as the river commonly is, for it to paſs through, and the mountains go on as before, on the other ſide, in the ſame direction. It is likewiſe remarkable, that the river in ſuch places where it paſſes through the mountains is as deep, and often deeper then in the other places.

The

The perpendicular rocks on the ſides of the river are ſurpriſing, and it appears that if no paſſages had been opened by Providence, for the river to paſs through, the mountains in the upper part of the country would have been inundated, ſince theſe mountains, like ſo many dykes, would have hindered the water from going on. *Quere*, Why does this river go on in a direct line for ſo conſiderable a diſtance? Why do the many paſſages, through which the river flows acroſs the mountains, ly under the ſame meridian? Why are waterfalls near ſome of theſe paſſages, or at leaſt ſhallow water with a rocky ground?

We now perceived exceſſive high and ſteep mountains on both ſides of the river, which echoed back each ſound we uttered. Yet notwithſtanding they were ſo high and ſteep, they were covered with ſmall trees.

The *Blue Mountains*, which reared their towering tops above all the other mountains, were now ſeen before us, towards *North*, but at a great diſtance.

The country began here to look more culvated, and leſs mountainous.

The laſt of the high weſtern mountains is called *Butterhill*, after which the country between the mountains grows more ſpacious. The farms became very numerous, and we had a proſpect of many corn-fields, between the hills: before we paſſed theſe hills we had the wind in our face, and we could only get forward by tacking, which went very ſlow, as the river was hardly a muſket-ſhot in breadth. Afterwards we caſt anchor, becauſe we had both wind and tide againſt us.

WHILST we waited for the return of tide and the change of wind, we went on ſhore.

THE *Saſſafras-tree (Laurus Saſſafras)* and the cheſnut-tree grows here in great abundance. I found the tulip-tree *(Liriodendron tulipifera)* in ſome parts of the wood, as likewiſe the *Kalmia latifolia*, which was now in full bloſſom; though the flowers were already withering.

SOME time after noon the wind aroſe from South-weſt, which being a fair wind, we weighed anchor, and continued our voyage. The place were we lay at anchor, was juſt the end of thoſe ſteep and amazing high mountains: their height is very amazing; they conſiſt of grey rock ſtone, and cloſe to them, on the ſhores lay a vaſt number of little ſtones. As ſoon as we had paſſed theſe mountains, the country became clearer of mountains, and higher. The river likewiſe encreaſed in breadth, ſo as to be near an *Engiliſh* mile broad. After ſailing for ſome time, we found no more mountains along the river; but on the eaſtern ſide goes a high chain of mountains to the north-eaſt, whoſe ſides are covered with woods, up to one half of their height. The ſummits however are quite barren; for I ſuppoſe that nothing would grow there, on account of the great degree of heat *, dryneſs, and the violence of the wind, to which that part is expoſed. The eaſtern ſide of the

* Mr. *Kalm* was certainly miſtaken, by thinking the ſummits of theſe mountains without wood, *on account of the great degree of heat:* for it is a general notion, founded on experience, that the ſun operates not ſo much on the tops of mountains, as in plains or vallies, and the cold often hinders the increaſe of wood on the ſummits of high mountains. F.

river

river is much more cultivated than the weſtern, where we ſeldom ſaw a houſe, the land being covered with woods, though it is in general very level. About fifty-ſix *Engliſh* miles from *New York* the country is not very high; yet it is every where covered with woods, except ſome new farms which were ſcattered here and there. The high mountains which we left in the afternoon, now appeared above the woods and the country. Theſe mountains, which were called the *Highlands*, did not project more North than the other, in the place where we anchored. Their ſides (not thoſe towards the river) were ſeldom perpendicular, but ſloping, ſo that one could climb up to the top, tho' not without difficulty.

On ſeveral high grounds near the river, the people burnt lime. The maſter of the yacht told me, that they break a fine blueiſh grey lime-ſtone in the high grounds, along both ſides of the river, for the ſpace of ſome *Engliſh* miles, and burn lime of it. But at ſome miles diſtance there is no more lime-ſtone, and they find alſo none on the banks till they come to *Albany*.

We paſſed by a little neck of land, which projected on the weſtern ſide in the river, and was called *Dance*. The name of this place is ſaid to derive its origin from a feſtival which the *Dutch* celebrated here in former times, and at which they danced and diverted themſelves; but once there came a number of *Indians*, who killed them all.

We caſt anchor late at night, becauſe the wind ceaſed and the tide was ebbing. The depth of the river is twelve fathoms here.

The

THE fire-flies paſſed the river in numbers, at night, and ſometimes ſettled upon the rigging.

June 12th. THIS morning we proceeded with the tide, but againſt the wind. The river was here a muſket-ſhot broad. The country in general is low on both ſides, conſiſting of low rocks, and ſtony fields, which are however covered with woods. It is ſo rocky, ſtony, and poor, that nobody can ſettle in it, or inhabit it, there being no ſpot of ground fit for a corn-field. The country continued to have the ſame appearance for the ſpace of ſome miles, and we never perceived one ſettlement. At eleven o'clock this morning we came to a little iſland, which lies in the middle of the river, and is ſaid to be half-way between *New York* and *Albany*. The ſhores are ſtill low, ſtony, and rocky, as before. But at a greater diſtance we ſaw high mountains, covered with woods, chiefly on the weſtern ſhore, raiſing their tops above the reſt of the country: and ſtill further off, the *Blue Mountains* roſe up above them. Towards noon it was quite calm, and we went on very ſlow. Here the land is well cultivated, eſpecially on the eaſtern ſhore, and full of great corn-fields; yet the ſoil ſeemed ſandy. Several villages lay on the eaſtern ſide, and one of them, called *Straſburg*, was inhabited by a number of *Germans*. To the Weſt we ſaw ſeveral cultivated places. The *Blue Mountains* are very plainly to be ſeen here. They appear through the clouds, and tower above all

other mountains. The river is full an *Engliſh* mile broad oppoſite *Straſburg*.

THEY make uſe of a yellow *Agaricus*, or muſhroom, which grows on maple-trees, for tinder; that which is found on the red-flowering maple (*Acer rubrum*) is reckoned the beſt, and next in goodneſs is that of the *Sugar-maple* (*Acer ſaccarinum*), which is ſometimes reckoned as good as the former.

RHINBECK is a place at ſome diſtance from *Straſburgh*, further off from the river. It is inhabited by many *Germans*, who have a church there.

AT two in the afternoon it began again to blow from the ſouth, which enabled us to proceed. The country on the eaſtern ſide is high, and conſiſts of a well cultivated ſoil. We had fine corn-fields, pretty farms, and good orchards, in view. The weſtern ſhore is likewiſe ſomewhat high, but ſtill covered with woods, and we now and then, though ſeldom, ſaw one or two little ſettlements. The river is above an *Engliſh* mile broad in moſt places, and comes in a ſtrait line from the North, ſo that we could not ſometimes follow it with our eye.

June 13th. THE wind favoured our voyage during the whole night, ſo that I had no opportunity of obſerving the nature of the country. This morning at five o'clock we were but nine *Engliſh* miles from *Albany*. The country on both ſides the river is low, and covered with woods, excepting a few little ſcattered ſettlements. Under the higher ſhores of the river

are

are wet meadows, covered with ſword-graſs (*Carex*), and they formed ſeveral little iſlands. We ſaw no mountains; and haſtened towards *Albany*. The land on both ſides of the river is chiefly low, and more carefully cultivated as we came nearer to *Albany*.

As to the houſes, which we ſaw, ſome were of wood, others of ſtone. The river is ſeldom above a muſket-ſhot broad, and in ſeveral parts of it are ſands, which require great experience for governing the yachts. At eight o'clock in the morning we arrived at *Albany*.

ALL the yachts which ply between *Albany* and *New York*, belong to *Albany*. They go up and down the river *Hudſon*, as long as it is open and free from ice. They bring from *Albany* boards or planks, and all ſorts of timber, flour, peaſe, and furs, which they get from the *Indians*, or which are ſmuggled from the *French*. They come home almoſt empty, and only bring a few merchandizes with them, among which rum is the chief. This laſt is abſolutely neceſſary to the inhabitants of *Albany*; they cheat the *Indians* in the fur trade with it; for when the *Indians* are drunk, they will leave it to the *Albanians* to fix the price of the furs. The yachts are pretty large, and have a good cabbin, in which the paſſengers can be very commodiouſly lodged. They are commonly built of *red Cedar*, or of *white Oak*. Frequently, the bottom conſiſts of white oak, and the ſides of red cedar, becauſe the latter withſtands putrefaction much longer than the former. The red cedar is likewiſe apt to ſplit, when it is ſtruck againſt

any thing, and the river *Hudſon* is in many parts full of ſands and rocks, againſt which the keel of the yacht ſometimes hits; therefore they chooſe white oak for the bottom, as being the ſofter wood, and not ſplitting ſo eaſily: and the bottom being continually under water, is not ſo much expoſed to putrefaction, and holds out longer.

THE *Canoes* which the yachts have along with them are made of a ſingle piece of wood, hollowed out; they are ſharp on both ends, frequently three or four fathoms long, and as broad as the thickneſs of the wood will allow. The people in it do not row ſitting, but commonly a fellow ſtands at each end, with a ſhort oar in his hand, with which he governs and brings the canoe forwards. Thoſe which are made here at *Albany*, are commonly of the *white Pine*; they can do ſervice for eight or twelve years, eſpecially if they be tarred and painted. At *Albany* they make them of the white pine, ſince there is no other wood fit for them; at *New York* they are made of the tulip-tree, and in other parts they are made of red or white cedars: but both theſe trees are ſo ſmall, in the neighbourhood of *Albany*, that they are unfit for canoes; there are no ſeats in the canoes, for if they had any, they would be more liable to be overſet, as one could not keep the equilibrium ſo well.

BATTOES * are another kind of boats, which are much in uſe in *Albany*: they are made of

* From the *French Bateaux (Boats)*.

boards

boards of white pine; the bottom is flat, that they may row the better in ſhallow water; they are ſharp at both ends, and ſomewhat higher towards the end than in the middle. They have ſeats in them, and are rowed as common boats. They are long, yet not all alike, commonly three, and ſometimes four fathoms long. The height from the bottom to the top of the board (for the ſides ſtand almoſt perpendicular) is from twenty inches to two feet, and the breadth in the middle about a yard and ſix inches. They are chiefly made uſe of for carrying goods, by means of the rivers, to the *Indians*; that is, when thoſe rivers are open enough for the battoes to paſs through, and when they need not be carried by land a great way. The boats made of the bark of trees, break eaſily by knocking againſt a ſtone, and the canoes cannot carry a great cargo, and are eaſily overſet; the battoes are therefore preferable to them both. I ſaw no boats here like thoſe in *Sweden*, and other parts of *Europe*.

The froſt does frequently a great deal of damage at *Albany*. There is hardly a month in ſummer during which a froſt does not happen. The ſpring comes very late, and in *April* and *May* are numerous cold nights, which frequently kill the flowers of trees and kitchen-herbs. It was feared that the bloſſoms of the apple-trees had been ſo ſeverely damaged by the froſt, laſt *May*, that next autumn there would be but very few apples. The oak-bloſſoms are very often killed by the froſt in the woods. The autumn here is of long continuance, with warm

days and nights. However, the cold nights commonly commence towards the end of *September*, and are frequent in *October*. The people are forced to keep their cattle in ſtables, from the middle of *November*, till *March* or *April*, and muſt find them hay during that time *.

DURING ſummer, the wind blows commonly from the South, and brings a great drought along with it. Sometimes it rains a little, and as ſoon as it has rained the wind veers to North-weſt, blowing for ſeveral days from that point, and then returning to the South. I have had frequent opportunities of ſeeing this change of wind happen very exactly, both this year and the following.

June 15th. THE encloſures were made of boards of fir-wood, of which there is abundance in the extenſive woods, and many ſaw-mills to cut it into boards.

THE ſeveral ſorts of apple-trees grow very well here, and bear as fine fruit as in any other part of *North America*. Each farm has a large orchard. They have ſome apples here, which are very large, and very palatable; they are ſent to *New York*, and other places as a rarity. They make excellent cyder, in autumn, in the country round *Albany*.

ALL the kinds of cherry-trees, which have been planted here, ſucceed very well.

PEAR-TREES do not ſucceed here. This was complained of in many other parts of *North America*. But I fear that they do not take

* The reader muſt reckon all this according to the old ſtile.

ſufficient

ſufficient care in the management and planting of them; for I have ſeen fine pears in ſeveral parts of *North America*.

PEACH-TREES have often been planted here, and never would ſucceed well. This was attributed to a worm which lives in the ground, and eats through the root, ſo that the tree dies. Perhaps the ſeverity of the winter contributes much to it.

THEY plant no other fruit-trees at *Albany* beſides theſe I have mentioned.

THEY ſow as much hemp and flax here, as they want for home conſumption.

THEY ſow maize in great abundance: A looſe ſoil is reckoned the beſt for this purpoſe; for it will not grow in clay: From half a buſhel they reap a hundred buſhels. They reckon maize a very good kind of corn, becauſe the ſhoots recovers after being hurt by the froſt. They have had examples here of the ſhoots dying twice in ſpring, to the very ground, and yet they ſhot up again afterwards, and afforded an excellent crop. Maize has likewiſe the advantage of ſtanding much longer againſt a drought, than wheat. The larger ſort of maize which is commonly ſown here, ripens in *September*.

THEY ſow wheat in the neighbourhood of *Albany*, with great advantage. From one buſhel they get twelve ſometimes; if the ſoil be good, they get twenty buſhels. If their crop amounts only to ten buſhels from one, they think it very trifling. The inhabitants of the country round *Albany*, are *Dutch* and *Germans*. The *Germans* live in ſeveral great villages, and ſow great quan-

tities of wheat, which is brought to *Albany*; and from thence they ſend many yachts laden with flour to *New York*. The wheat-flour from *Albany* is reckoned the beſt in all *North America*, except that from *Sopus* or *King's Town*, a place between *Albany* and *New York*. All the bread in *Albany* is made of wheat. At *New York* they pay the *Albany* flour with ſeveral ſhillings more *per* hundred weight, than that from other places.

Rye is likewiſe ſown here, but not ſo generally as wheat.

They do not ſow much barley here, becauſe they do not reckon the profits very great. Wheat is ſo plentiful that they make malt of it. In the neighbourhood of *New York*, I ſaw great fields ſown with barley.

They do not ſow more oats than are neceſſary for their horſes.

The *Dutch* and *Germans*, who live hereabouts, ſow peaſe in great abundance; they ſucceed very well, and are annually carried to *New York*, in great quantities. They have been free from inſects for a conſiderable time. But of late years the ſame beetles which deſtroy the peaſe in *Penſylvania*, *New Jerſey*, and the lower parts of the province of *New York*, have likewiſe appeared abundant among the peaſe here. It is a real loſs to this town, and to the other parts of *North America*, which uſed to get peaſe from hence for their own conſumption, and that of their ſailors. It had been found that if they procured good peaſe from *Albany*, and ſowed them near *King's Town*, or the lower part of the province of *New York*, they ſucceeded very well

well the firſt year, but were ſo full of worms the ſecond, and following years, that nobody could or would eat them. Some people put aſhes into the pot, among the peaſe, when they will not boil, or ſoften well; but whether this is wholeſome and agreeable to the palate, I do not know.

POTATOES are generally planted. Some people preferred aſhes to ſand for keeping them in during winter.

THE *Bermuda Potatoes* (*Convolvulus Batatas*) have likewiſe been planted here, and ſucceed pretty well. The greateſt difficulty is to keep them during winter; for they generally rot in that ſeaſon.

THE *Humming-bird* (*Trochilus Colubris*) comes to this place ſometimes; but it is rather a ſcarce bird.

THE ſhingles with which the houſes are covered are made of the White Pine, which is reckoned as good and as durable, and ſometimes better, than the White Cedar (*Cupreſſus thyoides*). The White Pine is found abundant here, in ſuch places where common pines grow in *Europe*. I have never ſeen them in the lower parts of the province of *New York*, nor in *New Jerſey* and *Penſylvania*. They ſaw a vaſt quantity of deal from the White Pine on this ſide of *Albany*, which are brought down to *New York*, and from thence exported.

THE woods abound with vines, which likewiſe grow on the ſteep banks of the river in ſurpriſing quantities. They climbed to the tops of trees on the bank, and bent them by their

weight. But where they found no trees, they hung down along the ſteep ſhores, and covered them entirely. The grapes are eaten after the froſt has attacked them; for they are too ſour before. They are not much uſed any other way.

The vaſt woods and uninhabited grounds, between *Albany* and *Canada*, contain immenſe ſwarms of gnats, which annoy the travellers. To be in ſome meaſures ſecured againſt theſe inſects, ſome beſmear their face with butter or greaſe; for the gnats do not like to ſettle on greaſy places. The great heat makes boots very uneaſy; but to prevent the gnats from ſtinging the legs, they wrap ſome paper round them, under the ſtockings. Some travellers wear caps which cover the whole face, and have ſome gauze before the eyes. At night they lie in tents, if they can carry any with them; and make a great fire at the entrance, by the ſmoke of which the gnats are driven away.

The porpeſſes ſeldom go higher up the river *Hudſon* than the ſalt water goes; after that, the ſturgeons fill their place. It has however ſometimes happened, that porpeſſes have gone quite up to *Albany*.

The fireflies (*Lampyris*) which are the ſame that are ſo common in *Penſylvania* during ſummer, are here ſeen in abundance every night. They fly up and down in the ſtreets of this town. They come into the houſes, if the doors and windows are open.

Several of the *Penſylvanian* trees are not to be met with in theſe woods; *viz.*

Magnolia

Magnolia glauca, the *Beaver-tree.*
Nyſſa aquatica, the *Tupelo-tree.*
Liquidambar ſtyraciflua, the *Sweet-gum tree.*
Dioſpyros Virginiana, the *Perſimon.*
Liriodendron tulipifera, the *Tulip-tree.*
Juglans nigra, the *black Walnut-tree.*
Quercus ——, the *Swamp Oak.*
Cercis Canadenſis, the *Sallad-tree.*
Robinia pſeudacacia, the *Locuſt-tree.*
Gleditſia triacanthos, the *Honey-locuſt tree.*
Annona muricata, the Papaw-tree.
Celtis occidentalis, the *Nettle-tree.* And a number of ſhrubs, which are never found here.

THE more northerly ſituation of the place, the height of the *Blue Mountains*, and the courſe of the rivers, which flow here ſouthward into the ſea, and accordingly carry the ſeeds of plants from north to ſouth, and not the contrary way, are chiefly the cauſes that ſeveral plants which grow in *Penſylvania* cannot be found here.

THIS afternoon I went to ſee an iſland which lies in the middle of the river, about a mile below the town. This iſland is an *Engliſh* mile long, and not above a quarter of a mile broad. It is almoſt entirely turned into corn fields; and is inhabited by a ſingle planter, who, beſides poſſeſſing this iſland, is the owner of two more. Here we ſaw no woods, except a few trees which were left round the iſland on the ſhore, and formed as it were a tall and great hedge. The Red Maple (*Acer rubrum*) grows in abundance in ſeveral places. Its leaves are white or ſilvery on the under ſides, and, when agitated by

by the wind, they make the tree appear as if it was full of white flowers. The Water-beech *(Platanus occidentalis)* grows to a great height, and is one of the moſt ſhady trees here. The *Water-poplar* * is the moſt common tree hereabouts, grows exceedingly well on the ſhores of the river, and is as tall as the talleſt of our aſps. In ſummer it affords the beſt ſhade for men and cattle againſt the ſcorching heat. On the banks of rivers and lakes it is one of the moſt uſeful trees, becauſe it holds the ſoil by its extenſive branched roots, and prevents the water from waſhing it away. The Water-beech and the Elm-tree *(Ulmus)* ſerve the ſame purpoſe. The wild Prune-trees were plentiful here, and were full of unripe fruit. Its wood is not made uſe of; but its fruit is eaten. Sumach *(Rhus glabra)* is plentiful here; as alſo the wild vines, which climb up the trees, and creep along the high ſhores of the river. I was told, that the grapes ripen very late, though they were already pretty large.

The *American* Elm-tree *(Ulmus Americana)* formed ſeveral high hedges. The ſoil of this iſland is a rich mould, mixed with ſand, which is chiefly employed in maize plantations. There were likewiſe large fields of potatoes. The whole iſland was leaſed for one hundred pounds of *New York* currency. The perſon who had taken the leaſe, again let ſome greater and ſome ſmaller lots of ground, to the inhabitants of

* *Populus glandulis variis baſi foliorum adnexis, foliis cordato-deltoidibus, acuminatis, ſerrato-anguloſis, utrinque glabris.*—An *Populus heterophylla* Linnæi?

Albany,

Albany, for making kitchen-gardens of; and by that means reimburſed himſelf. Portulack (*Portulaca oleracea*) grows ſpontaneouſly here in great abundance, and looks very well.

June 20th. The tide in the river *Hudſon* goes about eight or ten *Engliſh* miles above *Albany*, and conſequently runs one hundred and fifty-ſix *Engliſh* miles from the ſea. In ſpring when the ſnow melts, there is hardly any flowing near this town; for the great quantity of water which comes from the mountains during that ſeaſon, occaſions a continual ebbing. This likewiſe happens after heavy rains.

The cold is generally reckoned very ſevere here. The ice in the river *Hudſon* is commonly three or four feet thick. On the 3d of *April* ſome of the inhabitants croſſed the river with ſix pair of horſes. The ice commonly diſſolves about the end of *March*, or beginning of *April*. Great pieces of ice come down about that time, which ſometimes carry with them the houſes that ſtand cloſe to the ſhore. The water is very high at that time in the river, becauſe the ice ſtops ſometimes, and ſticks in places where the river is narrow. The water has been often obſerved to riſe three fathom higher than it commonly is in ſummer. The ground is frozen here in winter to the depth of three, four, or five feet. On the 16th of *November* the yachts are put up, and about the beginning or middle of *April* they are in motion again.

The water of ſeveral wells in this town was very cool about this time; but had a kind of acid taſte, which was not very agreeable. On a nearer

nearer examination, I found an abundance of little insects in it, which were probably *Monoculi*. Their length was different; some were a geometrical line and an half, others two, and others four lines long. They were very narrow, and of a pale colour. The head was blacker and thicker than the other parts of the body, and about the size of a pin's head. The tail was divided into two branches, and each branch terminated in a little black globule. When these insects swim, they proceed in crooked or undulated lines, almost like *Tadpoles*. I poured some of this water into a bowl, and put near a fourth part of rum to it. The *Monoculi*, instead of being affected with it, swam about as briskly as they had done in the water. This shews, that if one makes punch with this water, it must be very strong to kill the *Monoculi*. I think this water is not very wholesome for people who are not used to it, though the inhabitants of *Albany*, who drink it every day, say, they do not feel the least inconvenience from it. I have been several times obliged to drink water here, in which I have plainly seen *Monoculi* swimming; but I generaly felt the next day somewhat like a pea in my throat, or as if I had a swelling there; and this continued for above a week. I felt such swellings this year, both at *Albany* and in other parts. My servant, *Yung-stroem*, likewise got a great pain in his breast, and a sensation as from a swelling, after drinking water with *Monoculi* in it: but whether these insects occasioned it, or whether it came from some other cause, I cannot ascertain. However, I have always

always endeavoured, as much as poſſible, to do without ſuch water as had *Monoculi* in it. I have found *Monoculi* in very cold water, taken from the deepeſt wells, in different parts of this country. Perhaps many of our diſeaſes ariſe from waters of this kind, which we do not ſufficiently examine. I have frequently obſerved abundance of minute inſects in water, which has been remarkable for its clearneſs. Almoſt each houſe in *Albany* has its well, the water of which is applied to common uſe; but for tea, brewing, and waſhing, they commonly take the water of the river *Hudſon*, which flows cloſe by the town. This water is generally quite muddy, and very warm in ſummer; and, on that account, it is kept in cellars, in order that the ſlime may ſubſide, and that the water may cool a little.

We lodged with a gunſmith, who told us, that the beſt charcoals for the forge were made of the *Black Pine*. The next in goodneſs, in his opinion, were charcoals made of the *Beech-tree*.

The beſt and deareſt ſtocks for his muſkets were made of the wood of the wild Cherry-tree; and next to theſe he valued thoſe of the Red Maple moſt. They ſcarce make uſe of any other wood for this purpoſe. The black Walnut-tree affords excellent wood for ſtocks; but it does not grow in the neighbourhood of *Albany*.

June 21ſt. Next to the town of *New York*, *Albany* is the principal town, or at leaſt the moſt wealthy, in the province of *New York*.

It

It is ſituated on the declivity of a hill, cloſe to the weſtern ſhore of the river *Hudſon*, about one hundred and forty-ſix *Engliſh* miles from *New York*. The town extends along the river, which flows here from N. N. E. to S. S. W. The high mountains in the weſt, above the town, bound the proſpect on that ſide. There are two churches in *Albany*, an *Engliſh* one and a *Dutch* one. The *Dutch* church ſtands at ſome diſtance from the river, on the eaſt ſide of the market. It is built of ſtone; and in the middle it has a ſmall ſteeple, with a bell. It has but one miniſter, who preaches twice every *Sunday*. The *Engliſh* church is ſituated on the hill, at the weſt end of the market, directly under the fort. It is likewiſe built of ſtone, but has no ſteeple. There was no ſervice at this church at this time, becauſe they had no miniſter; and all the people underſtood *Dutch*, the garriſon excepted. The miniſter of this church has a ſettled income of one hundred pounds ſterling, which he gets from *England*. The town-hall lies to the ſouthward of the *Dutch* church, cloſe by the river ſide. It is a fine building of ſtone, three ſtories high. It has a ſmall tower or ſteeple, with a bell, and a gilt ball and vane at the top of it.

The houſes in this town are very neat, and partly built with ſtones covered with ſhingles of the *White Pine*. Some are ſlated with tiles from *Holland*, becauſe the clay of this neighbourhood is not reckoned fit for tiles. Moſt of the houſes are built in the old way, with the gable-end towards the ſtreet; a few excepted, which

which were lately built in the manner now uſed. A great number of houſes were built like thoſe of *New Brunſwick*, which I have deſcribed; the gable-end being built, towards the ſtreet, of bricks, and all the other walls of planks. The outſide of the houſes is never covered with lime or mortar, nor have I ſeen it practiſed in any *North American* towns which I have viſited; and the walls do not ſeem to be damaged by the air. The gutters on the roofs reach almoſt to the middle of the ſtreet. This preſerves the walls from being damaged by the rain; but is extremely diſagreeable in rainy weather for the people in the ſtreets, there being hardly any means of avoiding the water from the gutters. The ſtreet-doors are generally in the middle of the houſes; and on both ſides are ſeats, on which, during fair weather, the people ſpend almoſt the whole day, eſpecially on thoſe which are in the ſhadow of the houſes. In the evening theſe ſeats are covered with people of both ſexes; but this is rather troubleſome, as thoſe who paſs by are obliged to greet every body, unleſs they will ſhock the politeneſs of the inhabitants of this town. The ſtreets are broad, and ſome of them are paved; in ſome parts they are lined with trees; the long ſtreets are almoſt parallel to the river, and the others interſect them at right angles. The ſtreet which goes between the two churches, is five times broader than the others, and ſerves as a market-place. The ſtreets upon the whole are very dirty, becauſe the people leave their cattle in them, during the ſummer nights.

There are two market-places in the town, to which the country people reſort twice a week.

The fort lies higher than any other building, on a high ſteep hill on the weſt ſide of the town. It is a great building of ſtone, ſurrounded with high and thick walls; its ſituation is very bad, as it can only ſerve to keep off plundering parties, without being able to ſuſtain a ſiege. There are numerous high hills to the weſt of the fort, which command it, and from whence one may ſee all that is done within it. There is commonly an officer and a number of ſoldiers quartered in it. They ſay the fort contains a ſpring of water.

The ſituation of *Albany* is very advantageous in regard to trade. The river *Hudſon*, which flows cloſe by it, is from twelve to twenty feet deep. There is not yet any quay made for the better lading of the yachts, becauſe the people feared it would ſuffer greatly, or be entirely carried away in ſpring by the ice, which then comes down the river; the veſſels which are in uſe here, may come pretty near the ſhore in order to be laden, and heavy goods are brought to them upon canoes tied together. *Albany* carries on a conſiderable commerce with *New York*, chiefly in furs, boards, wheat, flour, peaſe, ſeveral kinds of timber, &c. There is not a place in all the *Britiſh* colonies, the *Hudſon*'s *Bay* ſettlements excepted, where ſuch quantities of furs and ſkins are bought of the *Indians* as at *Albany*. Moſt of the merchants in this town ſend a clerk or agent to *Oſwego*, an *Engliſh* trading town upon the lake *Ontario*, to which the *Indians* reſort with

with their furs. I intend to give a more minute account of this place in my Journal for the year 1750. The merchants from *Albany* ſpend the whole ſummer at *Oſwego*, and trade with many tribes of *Indians* who come to them with their goods. Many people have aſſured me, that the *Indians* are frequently cheated in diſpoſing of their goods, eſpecially when they are in liquor, and that ſometimes they do not get one half of the value of their goods. I have been a witneſs to ſeveral tranſactions of this kind. The merchants of *Albany* glory in theſe tricks, and are highly pleaſed when they have given a poor *Indian* a greater portion of brandy than he can bear, and when they can after that get all his goods for mere trifles. The *Indians* often find, when they are ſober again, that they have been cheated, they grumble ſomewhat, but are ſoon ſatisfied when they reflect that they have for once drank as much as they are able, of a liquor which they value beyond any thing elſe in the whole world, and they are quite inſenſible to their loſs if they again get a draught of this nectar. Beſides this trade at *Oſwego*, a number of *Indians* come to *Albany* from ſeveral parts, eſpecially from *Canada*; but from this latter place, they hardly bring any thing but beaver-ſkins. There is a great penalty in *Canada* for carrying furs to the *Engliſh*, that trade belonging to the *French Weſt India* Company; notwithſtanding which the *French* merchants in *Canada* carry on a conſiderable ſmuggling trade. They ſend their furs, by means of the *Indians*,

to their correſpondents at *Albany*, who purchaſe it at the price which they have fixed upon with the *French* merchants. The *Indians* take in return ſeveral kinds of cloth, and other goods, which may be got here at a lower rate than thoſe which are ſent to *Canada* from *France*.

THE greater part of the merchants at *Albany* have extenſive eſtates in the country, and a great deal of wood. If their eſtates have a little brook, they do not fail to erect a ſaw-mill upon it for ſawing boards and planks, with which commodity many yachts go during the whole ſummer to *New York*, having ſcarce any other lading than boards.

MANY people at *Albany* make the *wampum* of the *Indians*, which is their ornament and their money, by grinding ſome kinds of ſhells and muſcles; this is a conſiderable profit to the inhabitants. I ſhall ſpeak of this kind of money in the ſequel. The extenſive trade which the inhabitants of *Albany* carry on, and their ſparing manner of life, in the *Dutch* way, contribute to the conſiderable wealth which many of them acquire.

THE inhabitants of *Albany* and its environs are almoſt all *Dutchmen*. They ſpeak *Dutch*, have *Dutch* preachers, and divine ſervice is performed in that language: their manners are likewiſe quite *Dutch*; their dreſs is however like that of the *Engliſh*. It is well known that the firſt *Europeans* who ſettled in the province of *New York* were *Dutchmen*. During the time that they were the maſters of this

this province, they poſſeſſed themſelves of *New Sweden* *, of which they were jealous. However the pleaſure of poſſeſſing this conquered land and their own, was but of ſhort duration; for towards the end of 1664, Sir *Robert Carre*, by order of King *Charles* the ſecond, went to *New York*, then *New Amſterdam*, and took it. Soon after Colonel *Nichols* went to *Albany*, which then bore the name of *Fort Orange*, and upon taking it, named it *Albany*, from the Duke of *York*'s *Scotch* title. The *Dutch* inhabitants were allowed either to continue where they were, and, under the protection of the *Engliſh*, to enjoy all their former privileges, or to leave the country. The greater part of them choſe to ſtay, and from them the *Dutchmen* are deſcended, who now live in the province of *New York*, and who poſſeſs the greateſt and beſt eſtates in that province.

THE avarice and ſelfiſhneſs of the inhabitants of *Albany* are very well known throughout all *North America*, by the *Engliſh*, by the *French*, and even by the *Dutch*, in the lower part of *New York* province. If a Jew, who underſtands the art of getting forward perfectly well, ſhould ſettle amongſt them, they would not fail to ruin him. For this reaſon nobody comes to this place without the moſt preſſing neceſſity; and therefore I was aſked in ſeveral places, what induced me to go to it, two years one after another. I likewiſe found that the

* *New Jerſey* and part of *Penſylvania* were formerly compriſed under this name.

judgment, which people formed of them, was not without foundation. For though they ſeldom ſee any ſtrangers, (except thoſe who go from the *Britiſh* colonies to *Canada* and back again) and one might therefore expect to find victuals and accommodation for travellers cheaper than in places where travellers always reſort to, yet I experienced the contrary. I was here obliged to pay for every thing twice, thrice, and four times as dear as in any part of *North America* which I have paſſed through. If I wanted their aſſiſtance, I was obliged to pay them very well for it, and when I wanted to purchaſe any thing, or to be helped in ſome caſe or other, I could preſently ſee what kind of blood ran into their veins; for they either fixed exorbitant prices for their ſervices, or were very backward to aſſiſt me. Such was this people in general. However, there were ſome amongſt them who equalled any in *North America*, or any where elſe, in politeneſs, equity, goodneſs, and readineſs to ſerve and to oblige; but their number fell far ſhort of that of the former. If I may be allowed to declare my conjectures, the origin of the inhabitants of *Albany* and its neighbourhood ſeems to me to be as follows. Whilſt the *Dutch* poſſeſſed this country, and intended to people it, the government took up a pack of vagabonds, of which they intended to clear the country, and ſent them along with a number of other ſettlers to this province. The vagabonds were ſent far from the other coloniſts, upon the borders towards the *Indians* and other enemies, and a few honeſt families were

were perſuaded to go with them, in order to keep them in bounds. I cannot any other way account for the difference between the inhabitants of *Albany*, and the other deſcendants of ſo reſpectable a nation as the *Dutch*, who are ſettled in the lower part of *New York* province. The latter are civil, obliging, juſt in the prices, and ſincere; and though they are not ceremonious, yet they are well meaning and honeſt, and their promiſes are to be relied on.

THE behaviour of the inhabitants of *Albany*, during the war between *England* and *France*, which was ended with the peace of *Aix la Chapelle*, has, among ſeveral other cauſes, contributed to make them the object of hatred in all the *Britiſh* colonies, but more eſpecially in *New England*. For at the beginning of that war, when the *Indians* of both parties had received orders to commence hoſtilities, the *French* engaged theirs to attack the inhabitants of *New England*; which they faithfully executed, killing every body they met with, and carrying off whatever they found. During this time the people of *Albany* remained neutral, and carried on a great trade with the very *Indians* who murdered the inhabitants of *New England*. The plate, ſuch as ſilver ſpoons, bowls, cups, &c. of which the *Indians* robbed the houſes in *New England*, was carried to *Albany*, for ſale. The people of that town bought up theſe ſilver veſſels, though the names of the owners were graved on many of them, and encouraged the *Indians* to get more of them, promiſing to pay them well, and whatever they would de-

mand. This was afterwards interpreted by the inhabitants of *New England*, as if the *Albanians* encouraged the *Indians* to kill more of the people, who were in a manner their brothers, and who were ſubjects of the ſame crown. Upon the firſt news of this behaviour, which the *Indians* themſelves ſpread in *New England*, the inhabitants of the latter province were greatly incenſed, and threatened, that the firſt ſtep they would take in another war, would be to burn *Albany*, and the adjacent parts. In the preſent war it would ſufficiently appear how backward the other *Britiſh* provinces in *America* are in aſſiſting *Albany*, and the neighbouring places, in caſe of an attack from the *French* or *Indians* *. The hatred which the *Engliſh* bear againſt the people, at *Albany*, is very great, but that of the *Albanians* againſt the *Engliſh* is carried to a ten times higher degree. This hatred has ſubſiſted ever ſince the time when the *Engliſh* conquered this country, and is not yet extinguiſhed, tho' they could never have got ſuch advantages under the *Dutch* government, as they have obtained under that of the *Engliſh*. For, in a manner, their privileges are greater than thoſe of *Engliſhmen*.

The inhabitants of *Albany* are much more ſparing than the *Engliſh*. The meat which is ſerved up is often inſufficient to ſatisfy the ſtomach, and the bowl does not circulate ſo freely as amongſt the *Engliſh*. The women are

* Mr. *Kalm* publiſhed this third volume juſt during the time of the laſt war. F.

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perfectly well acquainted with œconomy; they riſe early, go to ſleep very late, and are almoſt over-nice and cleanly, in regard to the floor, which is frequently ſcoured ſeveral times in the week. The ſervants in the town are chiefly negroes. Some of the inhabitants wear their own hair, but it is very ſhort, without a bag or queue, which are looked upon as the characteriſtics of *Frenchmen*; and as I wore my hair in a bag the firſt day I came here from *Canada*, I was ſurrounded with children, who called me *Frenchman*, and ſome of the boldeſt offered to pull at my *French* dreſs.

THEIR meat, and manner of dreſſing it, is very different from that of the *Engliſh*. Their breakfaſt is tea, commonly without milk. About thirty or forty years ago, tea was unknown to them, and they breakfaſted either upon bread and butter, or bread and milk. They never put ſugar into the cup, but take a ſmall bit of it into their mouths whilſt they drink. Along with the tea they eat bread and butter, with ſlices of hung beef. Coffee is not uſual here; they breakfaſt generally about ſeven. Their dinner is butter-milk and bread, to which they ſometimes add ſugar, then it is a delicious diſh for them; or freſh milk and bread; or boiled or roaſted fleſh. They ſometimes make uſe of butter-milk inſtead of freſh milk, to boil a thin kind of porridge with, which taſtes very ſour, but not diſagreeable in hot weather. To each dinner they have a great ſallad, prepared with abundance of vinegar, and very little or no oil. They frequently eat butter-milk, bread, and

and ſallad, one mouthful after another. Their ſupper is generally bread and butter, and milk and bread. They ſometimes eat cheeſe at breakfaſt, and at dinner; it is not in ſlices, but ſcraped or raſped, ſo as to reſemble coarſe flour, which they pretend adds to the good taſte of cheeſe. They commonly drink very ſmall beer, or pure water.

THE governor of *New York* often confers at *Albany* with the *Indians* of the Five Nations, or the *Iroqueſe*, (*Mohawks*, *Senekas*, *Cayugaws*, *Onondagoes*, and *Onidoes*) eſpecially when they intend either to make war upon, or to continue a war againſt the *French*. Sometimes their deliberations likewiſe turn upon their converſion to the chriſtian religion, and it appears by the anſwer of one of the *Indian* chiefs, or *Sachems*, to governor *Hunter*, at a conference in this town, that the *Engliſh* do not pay ſo much attention to a work of ſo much conſequence as the *French* do, and that they do not ſend ſuch able men to inſtruct the *Indians* as they ought to do *.

* Mr. *Kalm* is, I believe, not right informed. The *French* eccleſiaſtics have allured ſome few wretched *Indians* to their religion and intereſt, and ſettled them in ſmall villages; but by the accounts of their behaviour in the ſeveral wars of the *French* and *Engliſh*, they were always guilty of the greateſt cruelties and brutalities; and more ſo than their heathen countrymen; and therefore it ſeems that they have been rather perverted than converted. On the other hand, the *Engliſh* have tranſlated the Bible into the language of the *Virginian Indians*, and converted many of them to the true knowledge of God; and at this preſent time, the *Indian* charity ſchools, and miſſions, conducted by the Rev. Mr. *Eleazar Wheelock*, have brought numbers of the *Indians* to the knowledge of the true God. The ſociety for propagating the goſpel in foreign parts, ſends every year many miſſionaries, at their own expence, among the *Indians*. And the *Moravian Brethren* are alſo very active in the converſion of *Gentiles*; ſo that if Mr. *Kalm* had

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For after governor *Hunter* had preſented theſe *Indians*, by order of Queen *Anne*, with many clothes, and other preſents, of which they were fond, he intended to convince them ſtill more of her Majeſty's good-will, and care for them, by adding, *that their good mother, the Queen, had not only generouſly provided them with fine clothes for their bodies, but likewiſe intended to adorn their ſouls, by the preaching of the goſpel; and that to this purpoſe ſome miniſters ſhould be ſent to them to inſtruct them.* The governor had ſcarce ended, when one of the oldeſt *Sachems* got up, and anſwered, *that in the name of all the Indians, he thanked their gracious good queen and mother for the fine cloaths ſhe had ſent them; but that in regard to the miniſters, they had already had ſome among them,* (whom he likewiſe named) *who inſtead of preaching the holy goſpel to them, had taught them to drink to exceſs, to cheat, and to quarrel among themſelves.* He then entreated the governor to take from them theſe preachers, and a number of *Europeans* who reſided amongſt them; for before they were come among them, the *Indians* had been an honeſt, ſober, and innocent people, but moſt of them became rogues now. That they had formerly had the fear of God, but that they hardly believed his exiſtence at preſent. That if he (the governor) would do them any favour, he ſhould ſend two or three blackſmiths amongſt them, to teach them to forge iron, in which they were unexperienced.

conſidered all theſe circumſtances, he would have judged otherwiſe of the zeal of the *Britiſh* nation, in propagating the goſpel among the *Indians*. F.

The

The governor could not forbear laughing at this extraordinary ſpeech. I think the words of St. *Paul* not wholly unapplicable on this occaſion: *For the name of God is blaſphemed amongſt the Gentiles, through you* †.

June 21ſt. About five o'clock in the afternoon we left *Albany*, and proceeded towards *Canada*. We had two men with us, who were to accompany us to the firſt *French* place, which is Fort *St. Frederick*, or as the *Engliſh* call it, *Crown Point*. For this ſervice each of them was to receive five pounds of *New York* currency, beſides which I was to provide them with victuals. This is the common price here, and he that does not chooſe to conform to it, is obliged to travel alone. We were forced to take up with a canoe *, as we could get neither battoes, nor boats of bark; and as there was a good road along the weſt ſide of the river *Hudſon*, we left the men to row forwards, in the canoe, and we went along it on the ſhore, that we might be better able to examine it, and its curioſities, with greater accuracy. It is very incommodious to row in theſe canoes; for one ſtands at each end and puſhes the boat forwards. They commonly keep cloſe to the ſhore, that they may be able to reach the ground eaſily. Thus the rowers are forced to ſtand upright, whilſt they row in a canoe. We kept along the ſhore all the evening, towards the river, it conſiſted of great hills, and next to the water grew the trees, which I have above mentioned, and which likewiſe are to be met

† Romans ii. 24.
* See the deſcription of it. p. 84.

with

with on the ſhores of the iſle, in the river, ſituate below *Albany*. The eaſterly ſhore of the river is uncultivated, woody, and hilly; but the weſtern is flat, cultivated, and chiefly turned into corn-fields, which had no drains, though they wanted them in ſome places. It appeared very plainly here, that the river had formerly been broader. For there is a ſloping bank on the corn-fields, at about thirty yards diſtance from the river, with which it always runs parallel. From this it ſufficiently appears, that the riſing ground formerly was the ſhore of the river, and the corn-fields its bed. As a further proof, it may be added, that the ſame ſhells which abound on the preſent ſhore of the river, and are not applied to any uſe by the inhabitants, ly plentifully ſcattered on theſe fields. I cannot ſay whether this change was occaſioned by the diminiſhing of the water in the river, or by its waſhing ſome earth down the river, and carrying it to its ſides or by the river's cutting deeper in on the ſides.

All the grounds were ploughed very even, as is uſual in the *Swediſh* province of *Upland*. Some were ſown with *yellow*, and others with *white Wheat*. Now and then we ſaw great fields of flax, which was now beginning to flower. In ſome parts it grows very well, and in others it was but indifferent. The exceſſive drought which had continued throughout this ſpring, had parched all the graſs and plants on hills and high grounds, leaving no other green plant than the common *Mullein (Verbaſcum Thapſus Linn.)* which I ſaw in ſeveral places, on the drieſt and higheſt hills, growing in ſpite of

of the parching heat of the ſun, and though the paſtures and meadows were exceſſively poor, and afforded ſcarce any food at all, yet the cattle never touched the *Mullein*. Now and then I found fields with peaſe, but the *Charlock (Sinapis arvenſis Linn.)* kept them quite under. The ſoil in moſt of theſe fields is a fine mould, which goes pretty deep.

The wild vines cover all the hills along the rivers, on which no other plants grow, and on thoſe which are covered with trees, they climb to the tops of them, and wholly cover them, making them bend down with their weight. They had already large grapes; we ſaw them abundant all this day, and during all the time that we kept to the river *Hudſon*, on the hills, along the ſhores, and on ſome little iſlands in the river.

The *white-backed Maize-thieves* appeared now and then, flying amongſt the buſhes: their note is fine, and they are not ſo large as the black maize-thieves, (*Oriolus Phœniceus*). We ſaw them near *New York*, for the firſt time.

We found a *Water-beech* tree *(Platanus occidentalis)* cut down near the road, meaſuring about five feet in diameter.

This day, and for ſome days afterwards, we met with iſlands in the river. The larger ones were cultivated, and turned into corn-fields and meadows.

We walked about five *Engliſh* miles along the river to-day, and found the ground, during that time, very uniform, and conſiſting of pure earth. The Red Maple, the Water-beech, the Water-aſp,

aſp, the wild Prune-tree, the Sumach, the Elm, the wild Vines, and ſome ſpecies of Willows, were the trees which we met with on the riſing ſhores of the river, where ſome Aſparagus (*Aſparagus officinalis*) grew wild.

We paſſed the night about ſix miles from *Albany*, in a countryman's cottage. On the weſt ſide of the river we ſaw ſeveral houſes, one after another, inhabited by the deſcendants of the firſt *Dutch* ſettlers, who lived by cultivating their grounds. About half an *Engliſh* mile beyond our lodgings, was the place where the tide ſtops in the river *Hudſon*, there being only ſmall and ſhallow ſtreams above it. At that place they catch a good many ſorts of fiſh in the river.

The barns were generally built in the *Dutch* way, as I have before deſcribed; for in the middle was the threſhing-floor, above it a place for the hay and ſtraw, and on each ſide ſtables for horſes, cows, and other animals. The barn itſelf was very large. Sometimes the buildings in the court-yard conſiſt only of a room, and a garret above it, together with a barn upon the above plan.

June 22d. This morning I followed one of our guides to the water-fall near *Cohoes*, in the river *Mohawk*, before it falls into the river *Hudſon*. This fall is about three *Engliſh* miles from the place where I paſſed the night. The country till the fall is a plain, and only hilly about the fall itſelf. The wood is cleared in moſt places, and the ground cultivated, and interſperſed with farm-houſes.

THE *Cohoes Fall* is one of the greateſt in *North America*. It is in the river *Mohawk*, before it unites with the river *Hudſon*. Above and below the fall, the ſides and the bottom of the river conſiſt of hard rock. The river is three hundred yards broad here. At the fall there is a rock croſſways in the river, running every where equally high, and croſſing in a ſtrait line with the ſide which forms the fall. It repreſents, as it were, a wall towards the lower ſide, which is not quite perpendicular, wanting about four yards. The height of this wall, over which the water rolls, appeared to me about twenty or twenty-four yards. I had marked this height in my pocket-book; and afterwards found it agreed pretty well with the account which that ingenious engineer, Mr. *Lewis Evans*, communicated to me at *Philadelphia*. He ſaid, that he had geometrically meaſured the breadth and height of the fall, and found it nine hundred *Engliſh* feet broad, and ſeventy-five feet high. The repreſentation of this fall, which is here joined, has been made by Mr. *Evans*. There was very little water in the river at preſent, and it only ran over the fall in a few places. In ſuch places where the water had rolled down before, it had cut deep holes below into the rock, ſometimes to the depth of two or three fathoms. The bed of the river, below the fall, was of rock, and quite dry, there being only a channel in the middle fourteen feet broad, and a fathom or ſomewhat more deep, through which the water paſſed which came over the fall. We ſaw a number of holes in the rock, below

below the fall, which bore a perfect reſemblance to thoſe in *Sweden* which we call *Giants Pots*, or *Mountain Kettles*. They differed in ſize; there being large deep ones, and ſmall ſhallow ones. We had clear uninterrupted ſun-ſhine, not a cloud above the horizon and no wind at all. However, cloſe to this fall, where the water was in ſuch a ſmall quantity, there was a continual drizzling rain, occaſioned by the vapours which roſe from the water during its fall, and were carried about by the wind. Therefore, in coming within a muſket-ſhot of the fall, againſt the wind, our cloths were wetted at once, as from a rain. The whirl-pools, which were in the water below the fall, contained ſeveral kinds of fiſh; and they were caught by ſome people, who amuſed themſelves with angling. The rocks hereabouts conſiſt of the ſame black ſtone which forms the hills about *Albany*. When expoſed to the air, it is apt to ſhiver into horizontal flakes, as ſlate does.

At noon we continued our journey to *Canada* in the canoe, which was pretty long, and made out of a white pine. Somewhat beyond the farm where we lay at night, the river became ſo ſhallow that the men could reach the ground every where with their oars; it being in ſome parts not above two feet and ſometimes but one foot deep. The ſhore and bed of the river conſiſted of ſand and pebbles. The river was very rapid, and againſt us; ſo that our rowers found it very hard work to get forward againſt the ſtream. The hills along the ſhore conſiſted merely of ſoil; and were

very high and ſteep in ſome parts. The breadth of the river was generally near two muſket-ſhot.

STURGEONS abound in the river *Hudſon*. We ſaw them for ſeveral days together leap high up into the air, eſpecially in the evening; our guides, and the people who lived hereabouts, aſſerted that they never ſee any ſturgeons in winter time, becauſe theſe fiſh go into the ſea late in autumn, but come up again in ſpring and ſtay in the river all the ſummer. They are ſaid to prefer the ſhalloweſt places in the river, which agreed pretty well with our obſervations; for we never ſaw them leap out of the water but in ſhallows. Their food is ſaid to be ſeveral kinds of *confervæ*, which grow in plenty in ſome places at the bottom of the river; for theſe weeds are found in their bellies when they are opened. The *Dutch* who are ſettled here, and the *Indians*, fiſh for ſturgeons, and every night of our voyage upon this river, we obſerved ſeveral boats with people who ſtruck them with harpoons. The torches which they employed were made of that kind of pine, which they call the black pine here. The nights were exceedingly dark, though they were now ſhorteſt, and though we were in a country ſo much to the South of *Sweden*. The banks of the river lay covered with dead ſturgeons, which had been wounded with the harpoon, but eſcaped, and died afterwards; they occaſioned an inſupportable ſtench during the exceſſive heat of the weather.

As we went further up the river we ſaw an *Indian* woman and her boy ſitting in a boat of bark, and an *Indian* wading through the river,

with a great cap of bark on his head. Near them was an iſland on which there were a number of *Indians* at preſent, on account of the ſturgeon fiſhery. We went to their huts to try if we could get one of them to accompany us to *Fort St. Frederick.* On our arrival we found that all the men were gone into the woods a hunting, and we were forced to engage their boys to go and look for them. They demanded bread for payment, and we gave them twenty little round loaves; for as they found that it was of great importance to us to ſpeak with the *Indians,* they raiſed difficulties, and would not go till we gave them what they wanted. The iſland belonged to the *Dutch,* who had turned it into corn-fields. But at preſent they had leaſed it to the *Indians,* who planted their maize and ſeveral kinds of mellons on it. They built their huts or *wigwams* on this iſland, on a very ſimple plan. Four poſts were put into the ground perpendicularly, over which they had placed poles, and made a roof of bark upon them. They had either no walls at all, or they conſiſted of branches with leaves, which were fixed to the poles. Their beds conſiſted of deer-ſkins which were ſpread on the ground. Their utenſils were a couple of ſmall kettles, and two ladles, and a bucket or two of bark, made ſo cloſe as to keep water. The ſturgeons were cut into long ſlices, and hung up in the ſun-ſhine to dry, and to be ready againſt winter. The *Indian* women were ſitting at their work on the hill, upon deer-ſkins. They never make uſe of chairs, but ſit on the ground: however they do not ſit

croſs-legged, as the *Turks* do, but between their feet, which, though they be turned backwards, are not croſſed, but bent outwards. The women wear no head-dreſs, and have black hair. They have a ſhort blue petticoat, which reaches to their knees, and the brim of which is bordered with red or other ribbands. They wear their ſhifts over their petticoats. They have large ear-rings; and their hair is tied behind, and wrapped in ribbands. Their *Wampum*, or Pearls, and their money, which is made of ſhells, are tied round the neck, and hang down on the breaſt. This is their whole dreſs. They were now making ſeveral kinds of work of ſkins, to which they ſowed the quills of the *American Porcupines*, having dyed them black or red, or or left them in their original colour.

Towards evening, we went from hence to a farm cloſe to the river, where we found only one man, looking after the maize and the fields; the chief of the men not being then returned from the war.

The little brooks here contain Crawfiſh, which are exactly the ſame with ours *, with this difference only, that they are ſomewhat leſs; however, the *Dutch* inhabitants will not eat them.

June 23d. We waited a good while for the *Indians*, who had promiſed to come home, in order to ſhew us the way to *Fort St. Ann*, and to aſſiſt us in making a boat of bark, to continue our voyage. About eight o'clock three of the

* *Cancer Aſtatus Linn.*

men

men arrived. Their hair was black, and cut ſhort; they wore rough pieces of woollen cloth, of a bright green colour, on their ſhoulders, a ſhirt which covers their thighs, and pieces of cloth, or ſkins, which they wrap round the legs and part of the thighs. They had neither hats, caps, nor breeches. Two of them had painted the upper part of their foreheads, and their cheeks, with vermilion. Round their neck was a ribband, from which hung a bag down to the breaſt, containing their knives. They promiſed to accompany us for thirty ſhillings; but ſoon after changed their minds, and went with an *Engliſhman*, who gave them more. Thus we were obliged to make this journey without theſe guides, who were, however, honeſt enough to return us fifteen ſhillings, which we had paid them before-hand.

Our laſt night's lodging was about ten *Engliſh* miles from *Albany*. During the laſt war, which was juſt ended, the inhabitants had retreated from thence to *Albany*, becauſe the *French Indians* had taken or killed all the people they met with, ſet the houſes on fire, and cut down the trees. Therefore, when the inhabitants returned, they found no houſes, and were forced to ly under a few boards which were huddled together.

The river was almoſt a muſket-ſhot broad, and the ground on both ſides cultivated. The hills near the river were ſteep, and the earth of a pale colour.

The *American* Elder (*Sambucus occidentalis*

lis *) grows in incredible quantities along thoſe hills, which appear quite white, from the abundance of flowers on the Elder.

All this day along, we had one current after after another, full of ſtones, which were great obſtacles to our getting forward. The water in the river was very clear, and generally ſhallow, being only from two to four feet deep, running very violently againſt us in moſt places. The ſhore was covered with pebbles, and a grey ſand. The hills conſiſted of earth, were high, and ſtood perpendicular towards the river, which was near two muſket-ſhot broad. Sometimes the land was cultivated, and ſometimes it was covered with woods.

The hills near the river abound with red and white clover. We found both theſe kinds plentiful in the woods. It is therefore difficult to determine whether they were brought over by the *Europeans*, as ſome people think; or whether they were originally in *America*, which the *Indians* deny.

We found Purſlane *(Portulaca oleracea)* growing plentifully in a ſandy ſoil. In gardens it was one of the worſt weeds.

We found people returning every where to their habitations, which they had been forced to leave during the war.

The farms were commonly built cloſe to the river, on the hills. Each houſe has a little kitchen-garden, and a ſtill leſſer orchard. Some farms, however, had large gardens. The

* *Sambucus Canadenſis Linn.*

kitchen-

kitchen-gardens afford ſeveral kinds of gourds, water-melons, and kidney-beans. The orchards are full of apple-trees. This year the trees had few or no apples, on account of the froſty nights which had happened in *May*, and the drought which had continued throughout this ſummer.

THE houſes hereabouts are generally built of beams of wood, and of unburnt bricks dried by the ſun and the air. The beams are firſt erected, and upon them a gable with two walls, and the ſpars. The wall on the gable is made of boards. The roof is covered with ſhingles of fir. They make the walls of unburnt bricks, between the beams, to keep the rooms warmer; and that they might not eaſily be deſtroyed by rain and air, they are covered with boards on the outſide. The cellar is below the houſe.

THE farms are either built cloſe to the river-ſide, or on the high grounds; and around them are large fields with maize.

WE ſaw great numbers of *Muſk-Rats (Caſtor Zibethicus Linn.)* on the ſhores of the river, where they had many holes, ſome on a level with the ſurface of the water. Theſe holes were large enough to admit a kitten. Before and in the entrance to the holes, lay a quantity of empty ſhells, the animals of which had been eaten by the *Muſk-Rats* *. They are caught in traps placed along the water-ſide, and baited with ſome maize or apples.

* This appears to be a new obſervation, as *Linnæus*, *De Buffon*, and *Sarraſin* pretend, they only feed on the *Acorus*, or Reeds, and other roots.

THE *Saſſafras-trees* abound here, but never grow to any conſiderable height.

CHESNUT-TREES appear now and then.

THE *Cockſpur Hawthorn* (*Cratægus Crus Galli Linn.*) grows in the pooreſt ſoil, and has very long ſpines; which ſhews, that it may be very advantageouſly planted in hedges, eſpecially in a poor ſoil.

THIS night we lodged with a farmer, who had returned to his farm after the war was over. All his buildings, except the great barn, were burnt.

June 24th. THE farm where we paſſed the night was the laſt in the province of *New York*, towards *Canada*, which had been left ſtanding, and which was now inhabited. Further on, we met ſtill with inhabitants: but they had no houſes, and lived in huts of boards; the houſes being burnt during the war.

As we continued our journey, we obſerved the country on both ſides of the river to be generally flat, but ſometimes hilly; and large tracts of it are covered with woods of fir-trees. Now and then we found ſome parts turned into corn-fields and meadows; however, the greater part was covered with woods. Ever ſince we left *Albany*, almoſt half-way to *Saratoga*, the river runs very rapid; and it coſt us a deal of pains to get upwards. But afterwards it becomes very deep, for the ſpace of ſeveral miles; and the water moves very ſlowly. The ſhores are very ſteep, though they are not very high. The river is two muſket-ſhot broad. In the afternoon it changed its direction; for hitherto

its

its direction was from North to South, but now it came from N. N. E. to S. S. W. and ſometimes from N. E. to S. W.

ANT-HILLS are very ſcarce in *America*; and I do not remember ſeeing a ſingle one before I came to the *Cohoes Fall*. We obſerved a few in the woods to-day. The Ants were the ſame with our common red ones (*Formica rufa Linn.*) The Ant-hills conſiſt chiefly of the ſlate-like mouldered ſtone which abounds here, there being nothing elſe for them.

CHESNUT-TREES grew ſcattered in the woods. We are told, that Mulberry-trees (*Morus rubra Linn.*) likewiſe grow wild here, but rather ſcarce; and this is the moſt northerly place where they grow in *America*; at leaſt, they have not been obſerved further to the north. We met with wild parſneps every day; but commonly in ſuch places where the land was, or had been, cultivated. Hemp grows ſpontaneouſly, and in great abundance, near old plantations.

THE woods abound with *Woodlice*, which were extremely troubleſome to us.

THE *Thuya occidentalis Linn.* appeared along the ſhores of the river. I had not ſeen it there before.

THE trees which grow along the ſhores, and on the adjacent hills, within our ſight to-day, are elms, birches, white firs, alders, dog-trees, lime-trees, red willows, and cheſnut-trees. The *American* Elder, (*Sambucus Canadenſis Linn.*) and the wild vines, only appear in places where the ground has been ſomewhat cultivated, as if they

they were desirous of being the companions of men. The lime-trees and white walnut-trees are the most numerous. The horn-beams, with inflated cones, *(Carpinus Ostrya. Linn.)* appeared now and then; but the water-beech and water-poplar never came within sight any more.

We frequently saw ground-squirrels and black squirrels in the woods.

At a little distance from *Saratoga*, we met two *Indians* in their boats of bark, which could scarce contain more than one person.

Near *Saratoga* the river becomes shallow and rapid again. The ground is here turned into corn-fields and meadows, but on account of the war, it was not made use of.

Saratoga has been a fort built of wood by the *English*, to stop the attacks of the *French Indians* upon the *English* inhabitants in these parts, and to serve as a rampart to *Albany*. It is situated on a hill, on the east-side of the river *Hudson*, and is built of thick posts driven into the ground, close to each other, in the manner of palisades, forming a square, the length of whose sides was within the reach of a musket-shot. At each corner are the houses of the officers, and within the palisades are the barracks, all of timber. This fort has been kept in order and was garrisoned till the last war, when the *English* themselves in 1747 set fire to it, not being able to defend themselves in it against the attacks of the *French* and their *Indians*; for as soon as a party of them went out of the fort, some of these enemies lay concealed, and

and either took them all priſoners, or ſhot them.

I SHALL only mention one, out of many artful tricks which were played here, and which both the *Engliſh* and *French* who were preſent here at that time told me repeatedly. A party of *French*, with their *Indians*, concealed themſelves one night in a thicket near the fort. In the morning ſome of their *Indians*, as they had previouſly reſolved, went to have a nearer view of the fort. The *Engliſh* fired upon them, as ſoon as they ſaw them at a diſtance; the *Indians* pretended to be wounded, fell down, got up again, ran a little way, and dropped again. Above half the garriſon ruſhed out to take them priſoners; but as ſoon as they were come up with them, the *French* and the remaining *Indians* came out of the buſhes, betwixt the fortreſs and the *Engliſh*, ſurrounded them, and took them priſoners. Thoſe who remained in the fort had hardly time to ſhut the gates, nor could they fire upon the enemy, becauſe they equally expoſed their countrymen to danger, and they were vexed to ſee their enemies take and carry them off in their ſight, and under their cannon. Such *French* artifices as theſe made the *Engliſh* weary of their ill-planned fort. We ſaw ſome of the paliſades ſtill in the ground. There was an iſland in the river, near *Saratogo*, much better ſituated for a fortification. The country is flat on both ſides of the river near *Saratoga*, and its ſoil good. The wood round about was generally cut down. The ſhores of the river are high, ſteep, and conſiſt of earth,

earth. We saw some hills in the north, beyond the distant forest. The inhabitants are *Dutch*, and bear an inveterate hatred to all *Englishmen*.

We lay over night in a little hut of boards erected by the people who were come to live here.

June 25th. Several saw-mills were built here before the war, which were very profitable to the inhabitants, on account of the abundance of wood which grows here.

The boards were easily brought to *Albany*, and from thence to *New York*, in rafts every spring with the high water; but all the mills were burnt at present.

This morning we proceeded up the river, but after we had advanced about an *English* mile, we fell in with a water-fall, which cost us a deal of pains before we could get our canoe over it. The water was very deep just below the fall, owing to its hollowing the rock out by the fall. In every place where we met with rocks in the river, we found the water very deep, from two to four fathoms and upwards; because by finding a resistance it had worked a deeper channel into the ground. Above the fall, the river is very deep again, the water slides along silently, and increases suddenly near the shores. On both sides, till you come to Fort *Nicholson*, the shore is covered with tall trees. After rowing several miles, we passed another water-fall, which is longer and more dangerous than the preceding one.

Giants-

GIANTS-POTS *, which I have deſcribed in the memoirs of the Royal *Swediſh* Academy of Sciences, are abundant near the fall of the rock which extends acroſs the river. The rock was almoſt dry at preſent, the river containing very little water at this ſeaſon of the year. Some of the giants-pots were round, but in general they were oblong. At the bottom of moſt of them lay either ſtones or grit, in abundance. Some were fifteen inches in diameter, but ſome were leſs. Their depth was likewiſe different, and ſome that I obſerved were above two foot deep. It is plain that they owed their origin to the whirling of the water round a pebble, which by that means was put in motion, together with the ſand.

WE intended to have gone quite up to Fort *Nicholſon* in the canoe, which would have been a great convenience to us; but we found it impoſſible to get over the upper fall, the canoe being heavy, and ſcarce any water in the river, except in one place where it flowed over the rock, and where it was impoſſible to get up, on account of the ſteepneſs, and the violence of the fall. We were accordingly obliged to leave our canoe here, and to carry our baggage through unfrequented woods to Fort *Anne*, on the river *Woodcreek*, which is a ſpace from forty-three to fifty *Engliſh* miles, during which we were quite ſpent, through the exceſs of heat. Sometimes we had no other way of croſſing deep rivers, than by cutting down tall trees, which ſtood on

* This is the literal meaning of the *Swediſh* word *jætte grytor*.

their

their banks, and throwing them acroſs the water. All the land we paſſed over this afternoon was almoſt level, without hills and ſtones, and entirely covered with a tall and thick foreſt, in which we continually met with trees which were fallen down, becauſe no one made the leaſt uſe of the woods. We paſſed the next night in the midſt of the foreſt, plagued with muſkitoes, gnats, and wood-lice, and in fear of all kinds of ſnakes.

June 26th. EARLY this morning we continued our journey through the wood, along the river *Hudſon*. There was an old path leading to Fort *Nicholſon*, but it was ſo overgrown with graſs, that we diſcovered it with great difficulty. In ſome places we found plenty of *raſpberries*.

FORT *Nicholſon* is the place on the eaſtern ſhore of the river *Hudſon*, where a wooden fortification formerly ſtood. We arrived here ſome time before noon, and reſted a while. Colonel *Lydius* reſided here till the beginning of the laſt war, chiefly with a view of carrying on a greater trade with the *French Indians*; but during the war, they burnt his houſe, and took his ſon priſoner. The fort was ſituated on a plain, but at preſent the place is all overgrown with a thicket. It was built in the year 1709, during the war which Queen *Anne* carried on againſt the *French*, and it was named after the brave *Engliſh* general *Nicholſon*. It was not ſo much a fort, as a magazine to Fort *Anne*. In the year 1711, when the *Engliſh* naval attempt upon *Canada* miſcarried, the *Engliſh* themſelves

ſet

ſet fire to this place. The ſoil hereabouts ſeems to be pretty fertile. The river *Hudſon* paſſed cloſe by here.

In the afternoon we continued our journey. We had hitherto followed the eaſtern ſhore of the river *Hudſon*, and gone almoſt due North; but now we left it, and went E. N. E. or N. E. acroſs the woods, in order to come to the upper end of the river *Woodcreek*, which flows to Fort St. *Frederick*, where we might go in a boat from the former place. The ground we paſſed over this afternoon was generally flat, and ſomewhat low. Sometimes we ſaw a little hill, but neither mountains nor ſtones, and the country was every where covered with tall and thick foreſts. The trees ſtood cloſe, and afforded a fine ſhade; but the pleaſure which we enjoyed from it was leſſened by the incredible quantity of gnats which filled the woods. We found ſeveral plants here, but they were far from each other, (as in our woods where the cattle have deſtroyed them) though no cattle ever came here. The ground was every where thick covered with leaves of the laſt autumn. In ſome places we found the ground overgrown with great quantities of moſs. The ſoil was generally very good, conſiſting of a deep mould, in which the plants thrive very well. Therefore it ſeems that it would anſwer very well if it were cultivated: however, flowing waters were very ſcarce hereabouts; and if the woods were cleared, how great would be the effects of the parching heat of the ſun, which might then act with its full force!

We

We lodged this night near a brook, in order to be ſufficiently ſupplied with water, which was not every where at hand during this ſeaſon. The muſkitoes, punchins, or gnats, and the woodlice, were very troubleſome. Our fear of ſnakes, and of the *Indians*, rendered this night's reſt very precarious and unſecure.

Punchins, as the *Dutch* call them, are the little gnats *(Culex pulicaris Linn.)* which abound here. They are very minute, and their wings grey, with black ſpots. They are ten times worſe than the larger ones, *(Culex pipiens Linn.)* or muſkitoes; for their ſize renders them next to imperceptible; they are every where careleſs of their lives, ſuck their fill of blood, and cauſe a burning pain.

We heard ſeveral great trees fall of themſelves in the night, though it was ſo calm, that not a leaf ſtirred. They made a dreadful cracking.

June 27th. We continued our journey in the morning. We found the country like that which we paſſed over yeſterday, except meeting with a few hills. Early this morning we plainly heard a fall in the river *Hudſon*.

In every part of the foreſt we found trees thrown down either by ſtorms, or age; but none were cut down, there being no inhabitants; and though the wood is very fine, yet nobody makes uſe of it. We found it very difficult to get over ſuch trees, becauſe they had ſtopped up almoſt all the paſſages, and cloſe to them was the chief reſidence of rattle-ſnakes, during the intenſeneſs of the heat.

About

About two o'clock this afternoon we arrived at Fort *Anne*. It lies upon the river *Woodcreek*, which is here at its origin no bigger than a little brook. We ſtayed here all this day, and next, in order to make a new boat of bark, becauſe there was no poſſibility to go down the river to Fort St. *Frederick*, without it. We arrived in time, for one of our guides fell ill this morning, and could not have gone any further with his burthen. If he had been worſe, we ſhould have been obliged to ſtop on his account, which would have put us under great difficulties, as our proviſions would ſoon have been exhauſted, and from the deſart place where we were, we could not have arrived at any inhabited place in leſs than three or four days. Happily we reached the wiſh'd-for place, and the ſick man had time to reſt and recover.

About Fort *Anne* we found a number of mice, of the common kind. They were probably the offspring of thoſe which were brought to the fort in the ſoldier's proviſions, at the time when it was kept in a ſtate of defence.

We met with ſome apple and plumb-trees, which were certainly planted when the fort was in a good condition.

June 28th. The *American Elm, (Ulmus Americana Linn.)* grows in abundance, in the foreſts hereabouts. There are two kinds of it. One was called the *White Elm*, on account of the inſide of the tree being white. It was more plentiful than the other ſpecies, which was called the *Red Elm*, becauſe the colour of the wood was reddiſh. Of the bark of the former

the boats made uſe of here are commonly made, it being tougher than the bark of any other tree. With the bark of hiccory, which is employed as baſt, they ſow the elm-bark together, and with the bark of the red elm they join the ends of the boat ſo cloſe as to keep the water out. They beat the bark between two ſtones; or for want of them, between two pieces of wood.

The making of the boat took up half yeſterday, and all this day. To make ſuch a boat, they pick out a thick tall elm, with a ſmooth bark, and with as few branches as poſſible. This tree is cut down, and great care is taken to prevent the bark from being hurt by falling againſt other trees, or againſt the ground. With this view ſome people do not fell the trees, but climb to the top of them, ſplit the bark, and ſtrip it off, which was the method our carpenter took. The bark is ſplit on one ſide, in a ſtrait line along the tree, as long as the boat is intended to be; at the ſame time, the bark is carefully cut from the ſtem a little way on both ſides of the ſlit, that it may more eaſily ſeparate; the bark is then pealed off very carefully, and particular care is taken not to make any holes into it; this is eaſy when the ſap is in the trees, and at other ſeaſons the tree is heated by the fire, for that purpoſe. The bark thus ſtript off is ſpread on the ground, in a ſmooth place, turning the inſide downwards, and the rough outſide upwards, and to ſtretch it better, ſome logs of wood or ſtones are carefully put on it, which preſs it down. Then the ſides of the bark are gently bent upwards, in order to form the ſides of

of the boat; ſome ſticks are then fixed into the ground, at the diſtance of three or four feet from each other, in the curve line, in which the ſides of the boat are intended to be, ſupporting the bark intended for the ſides; the ſides of the bark are then bent in the form which the boat is to have, and according to that the ſticks are either put nearer or further off. The ribs of the boat are made of thick branches of hiccory, they being tough and pliable. They are cut into ſeveral flat pieces, about an inch thick, and bent into the form which the ribs require, according to their places in the broader or narrower part of the boat. Being thus bent, they are put acroſs the boat, upon the back, or its bottom, pretty cloſe, about a ſpan, or ten inches from each other. The upper edge on each ſide of the boat is made of two thin poles, of the length of the boat, which are put cloſe together, on the ſide of the boat, being flat, where they are to be joined. The edge of the bark is put between theſe two poles, and ſewed up with threads of baſt, of the mouſe-wood, or other tough bark, or with roots. But before it is thus ſewed up, the ends of the ribs are likewiſe put between the two poles on each ſide, taking care to keep them at ſome diſtance from each other. After that is done, the poles are ſewed together, and being bent properly, both their ends join at each end of the boat, where they are tied together with ropes. To prevent the widening of the boat at the top, three or four tranſverſe bands are put acroſs it, from one edge to the other, at the diſtance of thirty or forty inches from each

other. Theſe bands are commonly made of hiccory, on account of its toughneſs and flexibility, and have a good length. Their extremities are put through the bark on both ſides, juſt below the poles, which make the edges; they are bent up above thoſe poles, and twiſted round the middle part of the bands, where they are carefully tied by ropes. As the bark at the two ends of the boat cannot be put ſo cloſe together as to keep the water out, the crevices are ſtopped up with the cruſhed or pounded bark of the red elm, which in that ſtate looks like oakum. Some pieces of bark are put upon the ribs in the boat, without which the foot would eaſily pierce the thin and weak bark below, which forms the bottom of the boat, for the better ſecurity of which, ſome thin boards are commonly laid at the bottom, which may be trod upon with more ſafety. The ſide of the bark which has been upon the wood, thus becomes the outſide of the boat, becauſe it is ſmooth and ſlippy, and cuts the water with leſs difficulty than the other. The building of theſe boats is not always quick; for ſometimes it happens that after peeling the bark off an elm, and carefully examining it, it is found pierced with holes and ſplits, or it is too thin to venture one's life in. In ſuch a caſe another elm muſt be looked out; and it ſometimes happens that ſeveral elms muſt be ſtripped of their bark, before one is found fit for a boat. That which we made was big enough to bear four perſons, with our baggage, which weighed ſomewhat more than a man.

All

ALL poſſible precautions muſt be taken in rowing on the rivers and lakes of theſe parts with a boat of bark. For as the rivers, and even the lakes, contain numbers of broken trees, which are commonly hidden under the water, the boat may eaſily run againſt a ſharp branch, which would tear half the boat away, if one rowed on very faſt, expoſing the people in it to great danger, where the water is very deep, eſpecially if ſuch a branch held the boat.

To get into ſuch a dangerous veſſel, muſt be done with great care, and for the greater ſafety, without ſhoes. For with the ſhoes on, and ſtill more with a ſudden leap into the boat, the heels may eaſily pierce through the bottom of the boat, which might ſometimes be attended with very diſagreeable circumſtances, eſpecially when the boat is ſo near a rock, and cloſe to that a ſudden depth of water; and ſuch places are common in the lakes and rivers here.

I never ſaw the muſkitoes *(Culex pipiens)* more plentiful in any part of *America* than they are here. They were ſo eager for our blood, that we could not reſt all the night, though we had ſurrounded ourſelves with fire.

WOOD-LICE *(Acarus Americanus Linn.)* abound here, and are more plentiful than on any part of the journey. Scarcely any one of us ſat down but a whole army of them crept upon his clothes. They cauſed us as much inconvenience as the gnats, during the laſt night, and the ſhort time we ſtayed here. Their bite is very diſagreeable, and they would prove very dangerous, if any one of them ſhould creep into a man's

ear, from whence it is difficult to extract them. There are examples of people whose ears were swelled to the size of the fist, on account of one of these insects creeping into them, and biting them.

The *Whipperiwill*, or *Whip-poor-Will*, cried all night on every side. The *Fire-flies* flew in numbers through the woods at night.

Fort *Anne* derives its name from Queen *Anne*; for in her time it served as a fortification against the *French*. It lies on the western side of the river *Woodcreek*, which is here as inconsiderable as a brook, of a fathom's breadth, and may be waded through in any part, during this season. The fort is built in the same manner as the forts *Saratoga* and *Nicholson*, that is to say, of palisades, within which the soldiers were quartered, and at the corners of which were the lodgings of the officers. The whole consisted of wood, because it was erected only with a view to resist irregular troops. It is built on a little rising ground which runs obliquely to the river *Woodcreek*. The country round about it is partly flat, partly hilly, and partly marshy, but it consists merely of earth, and no stones are to be met with, though ever so carefully sought for. General *Nicholson* built this fort in the year 1709; but at the conclusion of the war, then carrying on against the *French*, it shared the same fate with *Saratoga* and Fort *Nicholson*, being burnt by the *English* in 1711. This happened with the following circumstance: In 1711 the *English* resolved to attack *Canada* by land and by sea, at the same time. A powerful fleet sailed up the river *St. Lawrence* to besiege

beſiege *Quebec*, and General *Nicholſon*, who was the greateſt promoter of this expedition, headed a numerous army to this place by land, to attack *Montreal*, at the ſame time from hence; but a great part of the *Engliſh* fleet was ſhipwrecked in the river *St. Lawrence*, and obliged to return to *New England*. The news of this misfortune was immediately communicated to General *Nicholſon*, who was adviſed to retreat. Captain *Butler* who commanded Fort *Mohawk*, during my ſtay in *America*, told me that he had been at Fort *Anne* in 1711, and that General *Nicholſon* was about to leave it, and to go down the river *Woodcreek*, in boats ready for that purpoſe, when he received the accounts of the diſaſter which befell the fleet. He was ſo enraged, that he endeavoured to tear his wig, but it being too ſtrong for him, he flung it to the ground, and trampled on it, crying out *Roguery*, *treachery*. He then ſet fire to the fort, and returned. We ſaw the remains of the burnt paliſades in the ground; and I aſked my guides, Why the *Engliſh* had been at ſo great an expence in erecting the fort, and why they afterwards burnt it without any previous conſideration? They replied, that it was done to get money from the government once more, for the rebuilding of the fort, which money coming into ſome people's hands, they would appropriate a great part of it to themſelves, and erect again a wretched, inconſiderable fort. They further told me, that ſome of the richeſt people in *Albany* had promoted their poor relations to the places for ſupplying the army with bread, &c. with a view to patch up their broken fortunes;

and that they had acquired ſuch fortunes as rendered them equal to the richeſt inhabitants of *Albany*.

The heat was exceſſive to-day, eſpecially in the afternoon, when it was quite calm. We were on the very ſpot where Fort *Anne* formerly ſtood; it was a little place free from trees, but ſurrounded with them on every ſide, where the ſun had full liberty to heat the air. After noon it grew as warm as in a hot bath *, and I never felt a greater heat. I found a difficulty of breathing, and it ſeemed to me as if my lungs could not draw in a ſufficient quantity of air. I was more eaſed when I went down into the vallies, and eſpecially along the *Wood-creek*. I tried to fan the air to me with my hat, but it only encreaſed the difficulty of breathing, and I received

* In *Sweden* and in *Ruſſia* it is uſual for people of all ranks to bathe every week at leaſt one time; this is done in a ſtove heated by an oven, to a ſurpriſing degree, and which is enough to ſtifle people who are not uſed to it: for commonly the heat is encreaſed by the hot ſteam, cauſed by throwing red hot ſtones into water. In theſe baths, in *Ruſſia*, the lower ſort of people, men and women, bathe promiſcuouſly, as the *Romans* did, and from whom, as *Plutarch* obſerves, in his Life of *Cato*, the *Greeks* adopted this indelicate and indecent cuſtom, and which ſpread ſo much, that the Emperor *Adrian*, and *Marcus Antoninus* were obliged to make laws againſt it, but neither were they long obſerved, for we find ſoon the *Council of Laodicea* obliged to preſcribe a canon againſt this brutal cuſtom, and notwithſtanding this we find ſoon after that not only perſons of all ranks, but even clergymen and monks bathed promiſcuouſly with women, in the ſame baths; and from thence, it is probable, this cuſtom paſſed among the *Ruſſians*, when chriſtianity took place among them. Near the bath, in *Ruſſia*, is commonly a pond, where the people plunge in, when quite hot, and in winter they welter in the ſnow; and *Saturdays* it is common to ſee before the bath naked men and women, each having a bundle of rods in their hands, with which they gently beat one another, when in the bath. F.

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the greateſt relief when I went to the water, and in a ſhady place frequently ſprinkled ſome water in the air. My companions were all very much weakened, but they did not find ſuch difficulty in breathing, as I had done; however towards evening the air became ſomewhat cooler.

June 29th. HAVING completed our boat, after a great deal of trouble, we continued our journey this morning. Our proviſions, which were much diminiſhed, obliged us to make great haſte; for by being obliged to carry every thing on our backs, through the woods to Fort *Anne*, we could not take a great quantity of proviſions with us, having ſeveral other very neceſſary things with us; and we did always eat very heartily. As there was very little water in the river, and ſeveral trees were fallen acroſs it, which frequently ſtopped the boat, I left the men in the boat, and went along the ſhore with *Yungſtroem*. The ground on both ſides of the river was ſo low, that it muſt be under water in ſpring and autumn. The ſhores were covered with ſeveral ſorts of trees, which ſtood at moderate diſtances from each other, and a great deal of graſs grew between them. The trees afforded a fine ſhade, very neceſſary and agreeable in this hot ſeaſon; but the pleaſure it gave was conſiderably leſſened by the numbers of gnats which we met with. The ſoil was extremely rich.

As we came lower down the river, the dykes, which the beavers had made in it, produced new difficulties. Theſe laborious animals had carried together all ſorts of boughs and branches, and placed them acroſs the river, putting mud and

and clay in betwixt them, to ſtop the water. They had bit off the ends of the branches as neatly as if they had been chopped off with a hatchet. The graſs about theſe places was trod down by them, and in the neighbourhood of the dykes we ſometimes met with paths in the graſs, where the beavers probably carried trees along. We found a row of dykes before us, which ſtopped us a conſiderable while, as we could not get forwards with the boat, till we had cut through them.

As ſoon as the river was more open, we got into the boat again, and continued our journey in it. The breadth of the river, however, did not exceed eight or nine yards, and frequently it was not above three or four yards broad, and generally ſo ſhallow, that our boat got on with difficulty. Sometimes it acquired ſuch a ſudden depth, that we could not reach the ground with ſticks of ſeven feet long. The ſtream was very rapid in ſome places, and very ſlow in others. The banks were low at firſt, but afterwards remarkable high and ſteep, and now and then a rock projected into the water, which always cauſed a great depth in ſuch places. The rocks conſiſted here of a grey quartz, mixed with grey lime-ſtone, lying in ſtrata. The water in the river was very clear and tranſparent, and we ſaw ſeveral little paths leading to it from the woods, ſaid to be made by beavers, and other animals, which reſorted here to drink. After going a little more than three *Engliſh* miles, we came to a place, where a fire was yet burning, and then we little thought that we had narrowly eſcaped death

death laſt night, as we heard this evening. Now and then we met with ſeveral trees lying acroſs the river, and ſome dykes of beavers, which were troubleſome to us.

TOWARDS night we met with a *French* ſerjeant and ſix *French* ſoldiers, who were ſent by the commander of Fort *St. Frederick* to accompany three *Engliſhmen* to *Saratoga*, and to defend them in caſe of neceſſity, againſt ſix *French Indians*, who were gone to be revenged on the *Engliſh*, for killing the brother of one of them in the laſt war. The peace was already concluded at that time, but as it had not yet been proclaimed in *Canada*, the *Indians* thought they could take this ſtep; therefore they ſilently got away, contrary to the order of the Governor of *Montreal*, and went towards the *Engliſh* plantations. We here had occaſion to admire the care of Providence for us, in eſcaping theſe barbarians. We found the graſs trod down all the day long, but had no thoughts of danger, as we believed every thing was quiet and peaceable. We were afterwards informed, that theſe *Indians* had trod the graſs down, and paſſed the laſt night in the place where we found the burning brands in the morning. The uſual road which they were to take, was by Fort *Anne*, but to ſhorten their journey they had gone an unfrequented road. If they had gone on towards Fort *Anne*, they would have met us without doubt, and looking upon us all as *Engliſhmen*, for whoſe blood they were gone out, they could eaſily have ſurpriſed and ſhot us all, and by that means have been rid of the trouble of going any further to ſatisfy their

their cruelty. We were greatly ſtruck when the *Frenchmen* told us, how near death we had been to-day. We paſſed the night here, and though the *French* repeatedly adviſed and deſired me not to venture any further with my company, but to follow them to the firſt *Engliſh* ſettlement, and then back to Fort *St. Frederic*, yet I reſolved, with the protection of the Almighty, to continue my journey the next day.

We ſaw immenſe numbers of thoſe wild pigeons flying in the woods, which ſometimes come in incredible flocks to the ſouthern *Engliſh* colonies, moſt of the inhabitants not knowing where they come from. They have their neſts in the trees here; and almoſt all the night make a great noiſe and cooing in the trees, where they rooſt. The *Frenchmen* ſhot a great number of them, and gave us ſome, in which we found great quantity of the ſeeds of the elm, which evidently demonſtrated the care of Providence in ſupplying them with food; for in *May* the ſeeds of the red maple, which abounds here, are ripe, and drop from the trees, and are eaten by the pigeons during that time: afterwards, the ſeeds of the elm ripen, which then become their food, till other ſeeds ripen for them. Their fleſh is the moſt palatable of any bird's fleſh I ever taſted.

Almost every night, we heard ſome trees crack and fall, whilſt we lay here in the woods, though the air was ſo calm that not a leaf ſtirred. The reaſon of this breaking I am totally unacquainted with. Perhaps the dew looſens the roots of trees at night; or, perhaps there

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are too many branches on one ſide of the tree. It may be, that the above-mentioned wild pigeons ſettle in ſuch quantities on one tree as to weigh it down; or perhaps the tree begins to bend more and more to one ſide, from its center of gravity, making the weight always greater for the roots to ſupport, till it comes to the point, when it can no longer be kept upright, which may as well happen in the midſt of a calm night as at any other time. When the wind blows hard, it is reckoned very dangerous to ſleep or walk in the woods, on account of the many trees which fall in them; and even when it is very calm, there is ſome danger in paſſing under very great and old trees. I was told, in ſeveral parts *America*, that the ſtorms or hurricanes ſometimes only paſs over a ſmall part of the woods, and tear down the trees in it; and I have had opportunities of confirming the truth of this obſervation, by finding places in the foreſts, where almoſt all the trees were thrown down, and lay all in one direction.

TEA is differently eſteemed by different people; and I think we would be as well, and our purſes much better, if we were both without tea and coffee. However, I muſt be impartial, and mention in praiſe of tea, that if it be uſeful, it muſt certainly be ſo in ſummer, on ſuch journeys as mine, through a deſart country, where one cannot carry wine or other liquors, and where the water is generally unfit for uſe, as being full of inſects. In ſuch caſes, it is very reliſhing when boiled, and tea is drunk with it;

and

and I cannot ſufficiently deſcribe the fine taſte it has in ſuch circumſtances. It relieves a weary traveller more than can be inagined, as I have myſelf experienced, together with a great many others who have travelled through the deſart foreſts of *America*; on ſuch journeys, tea is found to be almoſt as neceſſary as victuals *.

June 30th. THIS morning we left our boat to the *Frenchmen*, who made uſe of it to carry their proviſiions; for we could not make any further uſe of it, on account of the number of trees which the *French* had thrown acroſs the river during the laſt war, to prevent the attacks of the *Engliſh* upon *Canada*. The *Frenchmen* gave us leave to make uſe of one of their boats, which they had left behind them, about ſix miles from the place where we paſſed the laſt night. Thus we continued our journey on foot, along the river; and found the country flat, with ſome little vales here and there. It was every where covered with tall trees, of the deciduous kind; among which the beech, the elm, the *American* lime-tree, and the ſugar-maple, where the moſt numerous. The trees ſtand at ſome diſtance from each other; and the ſoil in which they grow is extremely rich.

AFTER we had walked about a *Swediſh* mile, or ſix *Engliſh* miles, we came to the place where the ſix *Frenchmen* had left their bark boats, of

* On my travels through the deſart plains, beyond the river *Volga*, I have had ſeveral opportunities of making the ſame obſervations on Tea; and every traveller, in the ſame circumſtances, will readily allow them to be very juſt. F.

which

which we took one, and rowed down the river, which was now between nineteen and twenty yards broad. The ground on both ſides was very ſmooth, and not very high. Sometimes we found a hill conſiſting of grey quartz, mixed with ſmall fine grains of grey ſpar. We likewiſe obſerved black ſtripes in it; but they were ſo ſmall, that I could not determine whether they were of glimmer, or of another kind of ſtone. The hills were frequently divided into ſtrata, lying one above another, of the thickneſs of five inches. The ſtrata went from north to ſouth; and were not quite horizontal, but dipping to the north. As we went further on, we ſaw high and ſteep hills on the river-ſide, partly covered with trees; but in other parts, the banks conſiſt of a ſwampy turf ground, which gave way when it was walked upon, and had ſome ſimilarity to the ſides of our marſhes, which my countrymen are now about to drain. In thoſe parts where the ground was low and flat, we did not ſee any ſtones either on the ground, or on the ſofter ſhore; and both ſides of the river when they were not hilly, were covered with tall elms, *American* lime-trees, ſugar-maples, beeches, hiccory-trees, ſome water-beeches, and white walnut-trees.

On our left we ſaw an old fortification of ſtones laid above one another; but nobody could tell me whether the *Indians* or the *Europeans* had built it.

We had rowed very faſt all the afternoon, in order to get forward; and we thought that we

we were upon the true road, but found ourſelves greatly miſtaken: for towards night we obſerved, that the reeds in the river bent towards us, which was a mark that the river likewiſe flowed towards us; whereas, if we had been on the true river, it ſhould have gone with us. We likewiſe obſerved, from the trees which lay acroſs the river, that nobody had lately paſſed that way, though we ſhould have ſeen the ſteps of the *Frenchmen* in the graſs along the ſhore, when they brought their boat over theſe trees. At laſt, we plainly ſaw that the river flowed againſt us, by ſeveral pieces of wood which floated ſlowly towards us; and we were convinced, that we had gone twelve *Engliſh* miles, and upwards, upon a wrong river, which obliged us to return, and to row till very late at night. We ſometimes thought, through fear, that the *Indians*, who were gone to murder ſome *Engliſh*, would unavoidably meet with us. Though we rowed very faſt, yet we were not able today to get half-way back to the place where we firſt left the true river.

THE moſt odoriferous effluvia ſometimes came from the banks of the river, towards night, but we could not determine what flowers diffuſed them. However, we ſuppoſed they chiefly aroſe from the *Aſclepias Syriaca*, and the *Apocynum androſæmifolium*.

THE *Muſk Rats* could likewiſe be ſmelled at night. They had many holes in the ſhores, even with the ſurface of the water.

WE paſſed the night in an iſland, where we

could not ſleep on account of the gnats. We did not venture to make a fire, for fear the *Indians* ſhould find us out, and kill us. We heard ſeveral of their dogs barking in the woods, at a great diſtance from us, which added to our uneaſineſs.

METEOROLOGICAL OBSERVATIONS.

ADVERTISEMENT.

IN the firſt column of theſe Tables, the reader will find the days of the month; in the ſecond, the time or hour of the day when the obſervations were made; in the third, the riſing and falling of the thermometer; in the fourth, the wind; and in the fifth, the weather in general, ſuch as rainy, fair, cloudy, &c.

THE thermometer which I have made uſe of is that of Mr. *Celſius*, or the *Swediſh* thermometer ſo called, as I have already pointed out in the Preface. To diſtinguiſh the degrees above freezing-point from thoſe below it, I have expreſſed the freezing-point itſelf by oo, and prefixed o to every degree below it. The numbers therefore which have no o before them, ſignify the upper degrees. Some examples will make

make this ſtill more intelligible. On the 17th of *December* it is remarked, that the thermometer, at eight o'clock in the morning, was at 02.5. It was therefore at 2 degrees and $\frac{5}{10}$, or half a degree, below the freezing-point; but at two in the afternoon, it was at 00.0, or exactly upon the freezing-point. If it had been 00.3, it would have ſignified that the thermometer was fallen $\frac{3}{10}$ of a degree below the freezing-point; but 0.3 would ſignify, that it was riſen $\frac{3}{10}$ of a degree above the freezing-point. Thus likewiſe 03.0. is three degrees below the freezing-point; and 4.0. four degrees above it.

The numbers in the columns of the winds ſignify as follows: 0, is a calm; 1, a gentle breeze; 2, a freſh gale; 3, a ſtrong gale; and 4, a violent ſtorm or hurricane. When, in ſome of the laſt tables, the winds are only marked once a day, it ſignifies that they have not changed that day. Thus, on the 21ſt of *December*, ſtands N. 0 fair. This ſhews that the weather-cocks have turned to the north all day; but that no wind has been felt, and the ſky has been clear all the day long.

Before I went to *Canada*, in ſummer 1749, I deſired Mr. *John Bartram* to make ſome meteorological obſervations in *Penſylvania*, during my abſence, in order to aſcertain the ſummer-heat of that province. For that purpoſe, I left him a thermometer, and inſtructed him in the proper uſe of it; and he was ſo kind as to write down his obſervations at his farm, about four *Engliſh* miles to the ſouth of *Philadelphia*. He

is very excuſable for not putting down the hour, the degree of wind, &c. for being employed in buſineſs of greater conſequence, that of cultivating his grounds, he could not allow much time for this. What he has done is, however, ſufficient to give an idea of the *Penſylvanian* ſummer.

Auguſt

D.	H.	Ther.	Wind.	The Weather in general.
1	5 m	20.0	E S E 2	Fair.
	2 a	24.5	E 2	
2	5 m	22.0	E 2	
	2 a	24.5	E 2	
3	5 m	22.0	E 1	
	2 a	25.5	S S W 1	Cloudy with ſome rain.
4	5 m	22.0	S 1	Alternately fair, cloudy and rainy all
	1 a	21.0	S 1	day.
5	5 m	17.0	S S W 1	Chiefly rainy.
6	7 m	17 0	S 2	Cloudy.
	2 a	19.0	S 2	Somewhat cloudy, but chiefly fair.
7	5 m	15.5	S S W 2	Alternately fair and cloudy.
8	5 m	18.0	S S W 0	Fair all day.
	3 a	19.0	S S W 0	
9	6 m	17.5	W N W 0	
	4 a	21.0	W N W 1	
10	6 m	18.5	E 1	Fair.
	3 a	20.5	E 1	
11	6 m	47.0	E N E 1	Somewhat cloudy.
	½ a	18.5	S W 1	Fair.
	4	22.0	S W 1	
	6	22.0	W 3	
12	6 m	16.0	N W 1	Cloudy with ſome drizzling rain at ten.
	4 a	19.0	N W 1	Cloudy, fair, ſome drizzing rain altern.
13	6 m	17.0	W N W 2	Cloudy with ſome rain; foggy, ſome-
	2 a	18.5	W N W 2	times fair.
14	5 m	18.0	W S W 0	Somewhat cloudy, fair from 11 m. to 3 a.
	4 a	20.0	W S W 0	Cloudy.
15	5 m	18.0	W S W 0	Cloudy; ſometimes fair; at ten o'clock
	2 a	19.5	N E 2	fell a thin fog.
16	6 m	18.3	N N E 2	Somewhat cloudy; ſome time fair.
	2 a	18.5		Dark; rainy at night.
17	6 m	18.5	E N E 2	Dark, with ſome drizzling rain.
	2 a	19.5		Drizzling rain all the afternoon.
18	6 m	19.0	E 2	Drizzling rain all the day.
	2 a	20.5		
19	6 m	19.5		Cloudy.
	2 a	20.0		Scattered clouds.
20	6 m	19 5		Fair.
	2 a	21.5		Scattered clouds: ſometimes rain.
21	6 m	20.8	E 1	Somewhat cloudy, fair at nine.
	2 a	21.3		Thin clouds.

D.	H.	Ther.	Wind.	The Weather in general.
22	5 m	21.0		Fair; about twelve it became cloudy.
	1 a	23.5	E S E 1	Cloudy.
23	5 m	22.2		Scattered clouds.
	7		S E 2	
	2 a	24.2		Scattered clouds, dark towards eve.
24	5 m	23.5	W S W 2	Violent rain.
	6		W 2	
	7		W N W 1	About seven it cleared up.
	9		N W 1	
	2 a			Scattered clouds.
25	6 m	24.5	W 1	Scattered clouds.
	10		W N W 3	
	2 a	23.5		
26	6 m	24.0	W 2	Fair. At night a great halo appeared round the sun.
	2 a	24.5	S W 2	Dark. A strong redness at sun-setting.
			W S W 1	Cloudy. At ten it began to rain, and
27	6 m	24.5	S E 2	it rained all day.
	11		E 3	
	1 a		N E 4	Rain.
	4	21.5	N 1	Scattered clouds.
28	7 m	23.0		
	2 a	23.5	S W 1	(lightning.
29	6 m		S W 3	Towards evening drizzling rain and
	2 a	25.5	N W 2	Scattered clouds; air very cool.
30	6 m	23.5		
	2 a	21.5	S W 1	Fair, in the morning it began to grow
31	6 m	22.2		cloudy; at night lightning, hard rain, and some thunder.

D	H.	Ther.	Wind.	The Weather in general.
1	7 m	20.0	N W 2	Scattered clouds.
	2 a	21.5		Clouds paſſing by. Rain and ſtrong winds all the afternoon.
2	6 m	19.0	N W 1	Scattered clouds all day.
	2 a	20.5	N W 0	At night a great halo round the moon.
3	6 m	21.5	W S W 0	Scattered clouds.
	2 a	23.0	S 1	It became more cloudy. In the evening appeared a great halo round the ſun.
4	6 m	23.3	E 1	Scattered clouds.
	12 n	27.5	E S E 1	
	2 a	24.0		
5	6 m	24.5	S E 3	Scattered clouds.
	12 n	26.5		
6	6 m	27.0	S E 2	Scattered clouds.
	1 a	28.5		At night a great halo round the moon, and the ſky very red.
7	6 m	27.5	E 3	Dark ſometimes. The ſun ſhone through the clouds.
8	12 n	28.5	N E 2	Scattered clouds.
8	6 m	26.0	N N E 2	Scattered clouds all day.
	1 a	26.5		
9	6 m	24.5	N 1	Scattered clouds all day.
	1 a	24.5		
10	5 m	24.0	N N W 1	Fair.
	1 a	24.5		
11	6 m	23.2	W N W 1	Fair.
	2 a	25.0		At night a halo round the moon.
12	6 m	24.0	A Calm.	Fair, and very hot.
	½ a	26.0		
13	5 m	25.5	S E 1	Fair.
	1 a	26.5		
14	6 m	25.5	S E 1	Fair; but a cool wind all the morning.
	1 a	26.5		
15	5 m	23.0	S E 1	Scattered clouds.
	1 a	27.5		It grew more cloudy. In the evening and enſuing night, violent rain and winds.
16	5 m	21.5	N N E 1	It rained hard all day.
	2 a	21.5		
17	5 m	25.5	N W 1	Cloudy.
	1 a	21.0		Scattered clouds.

D	H.		Ther.	Wind.	The Weather in general.
18	6	m	13.0	Calm.	Fair.
19	1	a	24.5	N N E 1	Fair all day.
20	6	m	14.0	N E 1	Scattered clouds.
21	6	m	11.0	N E 0	Scattered clouds.
	1	a	23.0		
22	7	m	10.5	N E 1	Fair.
	1	a	25.0		
23	6	m	11.0	N N E 1	Fair.
	2	a	28.0		
24	6	m	14.0	N E 1	Fair.
	2	a	28.0		It grew dark. At night came rain, which continued late.
25	6	m	18.0	N W 1	Dark. At 8, ſcattered clouds.
	2	a	28.0	N E 1	Scattered clouds.
26	6	m	15.5	N N E 1	Fair.
	2	a	27.5		
27	6	m	17.0	N E 1	Cloudy. Fair at 8, and all the morning.
	2	a	27.0		Cloudy.
28	6	m	14.0	N E 1	Fair and cloudy alternately.
	2	a	20.0		
29	7	m	15.5	N E 1	Cloudy.
	2	a	20.5		Fine drizzling rain.
0	7	m	16.0	N E 0	Alternately fair and cloudy.

October

D.	H.		Ther.	Wind.	The Weather in general.
1	6	n	19.0	S 1	Fair. Scattered clouds at 8.
	2	a	18.5		Scattered clouds. Dark towards night.
2	6	m	18.5	S W o	Cloudy.
3	6	m	15.0	N W 1	Cloudy.
	1	a	18.0		Scattered clouds. Late at night a great halo round the moon.
4	7	m	6.0	N W 1	Fair.
	1	a	16.0		
5	7	m	2.0	N 1	Fair.
6	7	m	2.0	N E 1	Fair.
	1	a	18.0		At night a great halo round the moon.
7	6	m	7.0	E N E 1	Cloudy. Fair at 9, and all day.
8	6	m	14.0	E N E 1	Cloudy. Scattered clouds at 8.
9	6	m	18.0	S S E 1	Rain all the morning.
	3	a	23.0		Cloudy.
10	6	m	20.0	S W o	Fog, and a drizzling rain.
	2	a	23.0		Fair.
11	7	m	20.0	S W 1	Fog, which fell down. Fair at 8.
	2	a	26.0		Fair.
12	6	m	8.0	W N W 1	Fair all day.
	8			W 1	
	2	a	20.0	W S W 1	
13	6	m	2.0	W N W 1	In the morning, hoary froft on the plants.
	2	a	17.0	W S W o	Fair all day.
14	6	m	5.0	S S W o	Fair.
	2	a	21.0		
15	6	m	4.5	S S E o	Fair.
	2	a	24.0		
16	6	m	11.0	E N E o	Cloudy.
17	6	m	8.0	N E 1	Cloudy.
	2	a	18.0		Cloudy. Violent rain all night.
18	6	m	12.0	N W o	Cloudy.
	5	a	4.0	S W o	
19	6	m	00.0	W S W 1	Scattered clouds.
	2	a	9.0		
20	5	m	01.0	W N W 1	Fair.
	2	a	9.0		
21	7	m	00.0	W o	In the morning ice on ftanding water. white hoary froft on the ground; fair all day.
	1	a	15.0		
22	6	m	00.0	W o	Fair.

D	H.		Ther.	Wind.	The Weather in general.
23	6	m	4.5	N N E 1	Fair.
	1	a	16.0		
24	6	m	4.5	N 0	Fair.
	2	a	18.0		
25	6	m	4.5	S W 1	Fair. Air very much condenſed in the afternoon.
26	6	m	4.0	S W 0	Fair.
	3	a	19.0		
27	6	m	1.0	S W 0	Fair.
	3	a	17.0		
28	6	m	9.0	E 2	Heavy rain all day.
29	6	m	14.0	W 1	Fair.
	1	a	20.0		At night I ſaw a meteor, commonly called the ſhooting of a ſtar, going far from N. W. to S. E.
30	6	m	3.0	N W 1	Fair.
31	7	m	4.0	W 1	Fair.
	1	a	18.0		

D.	H.	Ther.	Wind.	The Weather in general.
1	7 m	3.0	S 1	Fair.
2	6 m	4.0	N 0	Fair.
	3 a	18.0		
3	7 m	7.0	N W 1	Fair.
	1 a	14.0	S E 0	
4	7 m	1.0	S W 0	In the morning the fields were covered with white froſt.
	12 n	19.0		A fair day.
5	7 m	4.0	S W 1	Fair.
	1 a	17.0		
6	7 m	4.5	N E 1	Fair.
	1 a	12.0		Towards evening ſomewhat cloudy.
7	7 m	7.0	E N E 1	Cloudy.
	4 a	11.5		
8	7 m	11.5	E N E 2	Drizzling rain.
	½ a	18.0	E S E 3	Heavy rain.
9	7 m	17.0	S E 1	Drizzling rain.
	9 m	15.0	S S W 1	At eight it cleared up.
	1 a	17.0		Scattered clouds.
10	7 m	6.0	S S W 2	Fair.
	½ a	13.0	W N W 2	
11	7 m	4.0	W S W 1	Cloudy.
	½ a	12.0		Scattered clouds.
12	6 m	03.0	S W 1	Fair.
	2 a	11.5	N W 2	Cloudy.
	4	5.0		
13	7 m	00.0	N N E 1	This morning ice on the water.
	2 a	5.5		Fair.
14	7 m	0.5	N 3	Fair.
	1 a	8.0	N 2	
15	7 m	3.0	S 2	A ſtrong red aurora.
	1 a	8.0		Cloudy and continual drizzling rain.
16	7 m	4.5	W 1	Fair.
17	7 m	01.0	W 1	Fair and cloudy alternately.
	1 a	8.0		Sometimes drizzling rain.
18	7 m	4.0	S 1	Fair.
	3 a	6.5	N W 2	
19	7 m	03.0	W 0	Fair.
	2 a	11.5		
20	7 m	01.0	N N E 1	Fair.
	2 a		S 1	

D.	H.	Ther.	Wind.	The Weather in general.
21	7 m	15.c	S W 2	Fair.
	1 a	19.c		
22	7 m	20.c	E 1	Rain all day.
	2 a	10.0		
23	8 m	16.c	S 1	Cloudy, foggy, and rain now and
	8 a		S W 4	then.
24	7 m	00.0	W.N W 3	Fair. [to-day
25	7 m		N W 0	It was very cold laſt night, and fair
26			N W 0	Alternately fair and ſomewhat cloudy, and always pretty cold.
27				Fair; ſcattered clouds: pretty warm in the air.
28				Cloudy, foggy, and quite calm.
29				Somewhat cloudy.
30			N 1	Fair, and a little cold.

December

D.	H.	Ther.	Wind.	The Weather in general.
1			N 1	Fair.
2			W S W 1	Fair, and cold; a great halo round the moon at night.
3			W S W 1	A pretty red aurora, however a fair day.
4	7 m	6.0	S S W 0	Fair.
	3 a	18.0		
5	7 m	5.5	N N E 1	
	4 a	9.5		
6	7 m	6.5	S S W 1	Cloudy.
	3 a	14.0		Somewhat fairer: hard rain in the next night.
7	7 m	13.5	S W 1	Cloudy.
	2 a	19.0		Fair.
8	7 m	5.0	S 1	Cloudy.
	2 a	13.5		Rain and wind next night; thick, but
9	7 m	12.0	S W 2	ſcattered clouds.
	2 a	10.0	W N W 2	
10			W N W 2	Scattered clouds.
11	7 m	2.0	S S W 1	Fair.
	2 a	12.5		
12	7 m	0.5	N E 1	Cloudy, rain, and fog all day from nine
	2 a	10.5		o'clock.
13	8 m	7.5	S W 0	Foggy, and cloudy.
	2 a	10.0		Next night a ſtrong N. W. wind.
14	8 m	1.0	N W 2	Scattered clouds.
	2 a	2.0		
15	8 m	07.0	W N W 1	Fair and cloudy alternately.
	2 a	01.0		
16	8 m	01.0	W 1	Fair.
	2 a	1.5		
17	8 m	02.5	N W 1	Cloudy, ſome ſnow, the firſt this win-
	2 a	00.0		ter.
18	8 m	03.0	W 1	Fair.
	2 a	4.0		
19	8 m	1.0	W 1	Cloudy.
	2 a	8.0		Fair.
20	8 m	01.5	W S W 2	Scattered clouds: about ſix at night
	2 a	7.5	W S W 1	were quite red ſtripes on the ſky, to the North.
21	8 m	07.0	N 0	Fair.
	2 a	2.0		

D.	H.	Ther.	Wind.	The Weather in general.
22	8 m	04.5	S E 0	Fair.
	2 a	13.0		It grew cloudy in the afternoon.
23	8 m	13.0	S S W 0	Heavy rain.
	2 a	18.0		Foggy and cloudy.
24	8 m	13.0	W S W 0	Thick fog.
	2 a	17.0	S W 1	Fair; but late in the evening a hard ſhower of rain.
25	8 m	18.0	S 3	Laſt night was a ſtorm, rain, thunder, and lightning.
	2 a	18.5	S S E 2	Heavy rain all day.
26	8 m	3.0	W 3	Laſt night a violent ſtorm from W. and S. and heavy rain. The morning was cloudy, and ſome ſnow fell.
	2 a	3.5	W N W 3	Clears up.
27	8 m	04.0	W N W 3	Fair.
28	8 m	07.0	W 0	Fair.
	2 a	8.0		
29	8 m	3.0	N N E 1	Somewhat cloudy, and intermittent ſhowers.
	2 a	13.0		
30	8 m	8.0	— 0	Cloudy and foggy all day.
	2 a	10.0	N N E 1	
31	8 m	6.0	— 0	Fair.
	2 a	4.0	W 3 N W 1	At night a halo round the moon.

D.	H.	Ther.	Wind.	The Weather in general.
1	7½ m	07.0	N W 0	Fair.
	2 a	4.0	— 0	
2	7½ m	04.5	W N W 1	Alternately fair and cloudy.
	2 a	5.5	— 1	
3	7½ m	2.0	N W 1	Cloudy.
	2 a	2.0	— 1	
4	7½ m	02.0	W 1	Fair.
	2 a	11.0	— 1	
5	7½ m	03.0	W 0	Fair.
6	7½ m	03.0	W 0	Fair, but darkned towards night, with
	2 a	14.5	— 0	ſome ſnow.
	5 a	14.5	N W 3	
7	7½ m	01.0	W N W 1	Somewhat cloudy.
	2 a	3.0	— 1	
8	7½ m	04.0	W N W 1	Fair.
	2 a	8.0	— 1	
9	7½ m	03.0	W N W 1	Aurora, cloudy, heavy rains at night.
	2 a	8.0	— 1	
10	7½ m	15.0	S 2	Cloudy, and ſhowers, ſome ſnow at
	2 a	2.0	W 4	night; at 9 morn. W. S. W. 3;
	4 a			at 11. m. S. W. 4; at 2 aft. W. 4.
11	7½ m	03.0	W N W 3	Cloudy.
	2 a	04.0	— 3	
12	7¼ m	04.0	W N W 3	Fair.
	2 a	01.5	N N W 2	
13	7¼ m	07.5	W N W 2	Fair.
	1 a	03.0	— 2	Cloudy.
14	7¼ m	05.5	W N W 1	Cloudy, and ſnows all day; it lay above
	1 a	02.0	— 1	two inches thick.
15	7 m	07.0	W N W 0	Fair.
	2 a	3.0	— 0	
16	7 m	08.9	N W 3	All the laſt night W N W 4.
	8 m	09.0		Fair all day.
	2 a	08.0	— 1	
17	7 m	011.0	N N E 0	Cloudy; ſnows all day, and the enſu-
	7 a	09.0	— 0	ing night.
18	7 m	012.0	N W 1	Cloudy, and ſnows in the morning, fair
	10 m	011.0	— 1	all the afternoon, and the ther-
				mometer at 011.0: ſnow lay five
				inches deep.
19	7 m	015.5	W 1	Fair.
	1 a	010.5	— 1	

D.	H.		Ther.	Wind.	The Weather in general.
20	7	m	012.5	W 1	Fair.
	2	a	07.0		
21	7	m	022.0	WNW 0	Fair.
	2	a	03.0	W 1	
22	7	m	05.0	W 1	Fair.
	2	a	01.0	W 1	Cloudy.
23	7	m	010.0	WNW 1	Fair; a great halo round the moon at
	7	a	3.0	— 1	night.
24	7	m	01.0	NNE 0	Cloudy, ſnows all day.
	2	a	4.0	NE 0	
25	7	m	00.0	WNW 0	Fair.
	2	a	4.0	W 0	
26	7	m	013.0	WNW 1	Fair.
	2	a	1.0	— 1	Cloudy; at three in the afternoon be-
					gan to ſnow.
27	7	m	07.0	W 1	Fair; halo round the moon at night.
	2	a	00.0	— 1	
28	7	m	01.0	WNW 1	Cloudy; ſnows almoſt all day.
	3	a	4.0	— 1	
29	7	m	05.0	NNE 1	Fair.
	3	a	03.0	— 1	
30	7	m	013.0	WNW 1	Fair; halo round the moon at night.
	3	a	4.0	— 1	
31	7	m	04.0	WNW 1	Fair; halo round the moon at night.
	3	a	8.0	— 1	

D.	H.	Ther.	Wind.	The Weather in general.
1	7 m	03.0	W N W 1	Fair; a halo round the moon at night.
	1 a	11.0	W 1	
2	7 m	5.0	W N W 0	Fair.
	2 a	6.0	W 0	
3	7 m	00.0	W 0	Fair.
	2 a	19.5	— 0	
4	7 m	5.5	W 0	Cloudy; at ten at night wind N N E 3.
	2 a	11.0	4 a. N N E 2	snow.
5	7 m	06.0	N N W 2	Fair.
	1 a	03 0	N W 2	
6	7 m	010.5	N W 0	A craking noise was heard in all houses
	2 a	3.0	W S W 1	the night before. Aurora.—Fair all day,— at 7 in the morn. N W 1 — at 9, W N W 1—at 11, W 1 —at 2 in the afternoon, W S W 1.
7	7 m	01.0	N N E 1	Cloudy—fair—at 7 in the morn. N N
	2 a	1.0	N W 1	E 1—at 9, N 1—at 10, W N W 1—at 12, N W 1.
8	7 m	09.0	N W 0	Fair.
	2 a	7.0	W 1	
9	7 m	03 9	W 1	Fair.
	3 a	16.0	— 1	
10	7 m	7.0	W 1	Pretty clear; a violent storm with rain
	1 a	11 0	S S W 4	all the ensuing night.
11	7 m	9 0	S S W 2	Fair; rain towards night; at night a
	1 a	11.0		light similar to an Aurora Borealis in S W.
12	7 m	4.0	S S W 3	Fair; about nine at night a faint Au-
	1 a	10 0		rora Borealis in S W.
13	7 m	2.0	W N W 2	Cloudy.
	3 a	5.0	N W 2	Fair.
14	7 m	06.0	N W 1	Fair.
	3 a	02.5	W N W 2	Flying clouds.
15	0¾ m	010 5	N W 1	Fair; at eight in the evening an Au-
	2 a	03.0	W N W 0	rora Borealis.
16	0¾ m	013.0	W N W 0	Fair.
	2 a	00.0	N W 1	
17	6½ m	02.0	W N W 1	Cloudy and snow; wind all the after-
	2 a	00.0	W 1	noon long.
18	6½ m	2.0	W N W 1	Cloudy.
	2 a	00.0		

D.	H.	Ther.	Wind.	The Weather in general.
19	6½ m	03.0	N N E 2	Cloudy; rain all day, mixed with ſnow
	2 a	01.0		and hail.
20	6½ m	1.5	N W 1	Cloudy.
	2	4.5		
21	6½ m	00 8	N W 0	Cloudy; at 5 in the morn. we heard a
	4 a	4.0	N N E 1	waterfall near a mill, about a mile S of us, making a ſtronger noiſe than common, tho' the air was very calm — at 10 began a rain which continued the whole day.
22	6½ m	3.0	W N W 2	Fair.
	2 a	3.5		
23	6½ m	06.0	W 2	Fair.
	4 a	4.0		Some clouds gathered round the ſun.
24	6½ m	4.0	S S W 1	Cloudy.
	3 a	10.0	W 1	
25	6 m	3.0	W N W 0	Alternately fair and cloudy.
	2 a	1		
26	6 m	012.0	N N W 1	Fair; cloudy at night; at eight in the
	3 a	02.0		evening was a halo round the moon, and the clouds in the S. quite red.
27	6 m	04.0	N 2	Cloudy, and ſnow in the morning; but
	3 a	01.0		fair at 4 in the afternoon.
28	6 m	04.5	N W 4	Flying clouds.
	3 a	03.5	W N W 4	

March

D	H.	Ther.	Wind.	The Weather in general.
1	6 m	09.0	W N W 2	Fair. A great halo round the moon at night.
	3 a	01.5		
2	6 m	06.0	N W 2	Fair. A faint halo round the moon at night.
	4 a	2.5		
3	6 m	04.0	N W 1	Fair. Cloudy afternoon. About 8 at night the clouds in S.W. were quite red. At 9 it began to ſnow.
	2 a	6.5	S 1	
4	6 m	0.5	E S E 1	Cloudy. Heavy rain at night.
	2 a	7.0	S 1	
5	6 m	4.0	W 1	Alternately fair and cloudy. The next night calm.
	2 a	11.0	W 3	
6	6 m	4.0	W 2	Fair.
7	6 m	00.0	W S W 1	Alternately fair and cloudy in the morning. In the afternoon cloudy, with intermittent rain and thunder.
	2 a	8.0		
8	6 m	2.0	W N W 0	Fair. About 8 at night we ſaw what is called a ſnow-fire to the S. W.
	3 a	20.0	W S W 2	
9	6 m	5.0	N 1	Fair.
	3 a	13.5		Cloudy. Snow-fire in S. W. about 8 at night.
10	6½ m	5.0	S S E 1	Cloudy. Snow and rain all day, and next night.
	2 a	6.5	S E 1	
11	6 m	9.0	S S E 1	Cloudy and heavy rain in the morning. Clears up in the afternoon.
	3 a	14.0	W 1	
12	6 m	9.0	N N W 0	Cloudy in the morning. Clears up at 10. Towards night cloudy, with rain.
	3 a	15.0	E N E 0	
13	6 m	9.5	N N E 2	Cloudy, with heavy rain. Fair at 4 in the afternoon.
	2 a	8.0	10 m. N 3	
14	6 m	4.0	W N W 2	Fair.
	2 a	10.0		
15	3 m	00.0	W S W 0	Fair. Cloudy towards night.
	3 a	13.0	W 2	
16	6 m	2.5	N N E 3	Snow violently blown about all day.
	3 a	01.0		
17	6 m	01.0	N W 2	Cloudy. Clears up at 8 in the morning.
	3 a	5.0		
18	6 m	02.0	W S W 0	Fair. The fields were now covered with ſnow.
	3 a	4.0	W 2	
19	6 m	02.0	W N W 1	Fair.
	3 a	6.0	N W 2	

D.	H.	Ther.	Wind.	The Weather in general.
20	6 m	05.5	W 0	Fair. Cloudy towards night.
	3 a	11.5	S W 1	Cloudy.
21	6½ m	2.0	S S E 0	Cloudy. Intermittent ſhowers.
	3 a	14.5		
22	6 m	10.0	S S E 0	Cloudy.
	3 a	19.5		
23	6 m	15.0	S S E 1	Heavy rain.
	3 a	19.0		
24	6 m	8.0	S W 1	Fair.
	3 a	15.0		
25	6¼ m	6 5	W N W 3	Fair.
	3 a	11.0		Flying clouds.
26	6 m	00.0	W N W 2	Fair.
	5 a	11.0	S W 2	Flying clouds. About 8 at night a ſnow-fire on the horizon in S. W.
27	6 m	3.0	W N W 1	Fair.
	3 a	9.0		
28	6½ m	3.0	S 1	Rain all the day, and the next night.
	3 a	12.0	11a. NNW 3	
29	6 m	1.0	N N W 2	Fair.
	2 a	6.0		
30	6 m	03.0	E 1	Fair. Cloudy at noon: begins to ſnow,
	2 a	4.0	S E 1	which continues till night, when it turned into rain.
31	6¼ m	5.0	N 1	Cloudy.
	3 a	14.0		

D.	H.	Ther.	Wind.	The Weather in general.
1	6 m	5.5	N N E 1	Rain in the morning,—afternoon,—and in the night.
	3 a	3.5	E 1	Snow, with much thunder and lightning.
2	6 m	0.5	N N E 1	Snow almoſt the whole day.
	3 a	0.5		
3	6 m	02.0	N W 1	Fair.
	3 a	9.0		
4	6 m	02.0	W 1	Fair.
	3 a	16.0		
5	6 m	00.5	N 1	Fair.
	3 a	19.0	S W 1	Sun very red at ſetting.
6	6 m	4.0	S W 1	Fair.
	3 a	23.0		
7	6 m	13.0	S 2	Fair. Cloudy afternoon
	3 a	24.0		About 7 in the evening it began to rain, and continued till late at night.
8	7 m	9.0	N W 3	Flying clouds.
	3 a	13.0		
9	6 m	1.0	N 1	Alternately fair and cloudy. Snows in the evening, and at night.
	3 a	7.0		
10	7 m	2.5	N E 1	Cloudy. Began to rain at ten, and continued all day till night.
	3 a	6.5		
11	6 m	5.0	N E 1	Rain almoſt the whole day.
	3 a	9.0		
12	6 m	2.0	W N W 2	Fair. Afternoon cloudy, with hail and rain.
	2 a	13.0		
13	6 m		N W 2	Fair.
	2 a		S W 1	Cloudy.
14	6 m		E 1	Cloudy; fair at eight. Cloudy towards night.
	2 a			
15	6 m		E 1	Almoſt quite fair.
	2 a			
16	6 m	6.5	W N W 2	Fair.
	2 a	13.5	— 1	
17	6 m	7.0	S 1	Alternately fair and cloudy.
	3 a	16.0	S W 1	Rain.
18	7 m	6.0	N 0	Fair.
	3 a	18.0	N W 3	
19	5½ m	2.0	N N W 0	Fair.
	3 a	20.0	W 2	

D.	H.	Ther.	Wind.	The Weather in general.
20	6 m	2.c	S W o	A hoar froſt this morning. Fair and
	3 a			very hot all day.
21			S W 1	Fair; with hot vapours raiſed by the
				ſun.
22	5 m	13.o	S o	Almoſt fair.
	3 a.	23.o		
23	5½ m	11.c	W 1	Fair.
	3 a	25 5		
24	6 m	12.o	S 1	Cloudy, intermittent drizzl. ſhowers.
	3 a	22.c		
25	6 m	18.c	S o	Rain the preceding night, and now
	3 a	24.c		and then this day. At night thun-
				der and lightning.
26	6 m	28.c	W 1	Fair.
	3 a	30.o		
27	6 m	17.o	W 2	Fair.
	3 a	25.o		
28	6 m	7.c	W o	Fair.
	3 a	24.c		
29	6 m	7.c	N 2	Fair.
	3 a	17.o	E 2	
30	5 m	3.o	E 1	Flying clouds.
	3 a	15.5	S 1	

D.	H.	Ther.	Wind.	The Weather in general.
1	4 m	01.5	S 0	Hoar froſt this morning,—fair.
	3 a	18.5	S W 1	
2	5 m	1.0	W 1	Fair.
	3 a	23.0		
3	5½ m	4.0	W 1	Fair.
	3 a	27.5		
4	5 m	16.0	W 1	Fair.
5	5 m	13.0	S 3	Flying clouds.
	3 a	27.0		
6	5 m	14.5	N 0	Fair.
7	5 m	13.0	N 0	Somewhat cloudy.
8	5 m	4.0	N 0	Fair.
9	6 m	14.0	S 1	Rain almoſt the whole day.
	3 a	14.0		
10	6 m	13.0	S S W 0	Intermittent ſhowers.
	3 a	16.0		
11	6 m	12.0	W S W 0	Fair.
	3 a	28.0		
12	6 m	13.0	W N W 2	Fair.
	3 a	20.0		
13	5 m	9.0	N W 1	Fair.
	3 a	18.5		
14	5 m	00.5	N W 0	Fair.
15	5 m	9.0	S S W 2	Cloudy.
	3 a	20.0		Rain.
16	5 m	17.0		Cloudy.
	4 a	23.0		
17	5 m	20.0	S 1	Rains intermittently all day; and lightens very much at night.
	3 a	24.0		
18	5 m	13.0		Fair.
19	5 m	17.0	W 2	Fair.
20	5 m	19.0	W 1	Fair.
	3 a	24.0		
21	6 m	20.0		Fair.
22			S W 1	Fair. Very hot.
23	5 m	17.0	S W 1	Fair.
	3 a	33.5		
24	12 m	32.0	S W 1	Fair.
25	8 m	23.0	S W 1	Fair, and very warm.
	2 a	28.0		

D.	H.	Ther.	Wind.	The Weather in general.
26	8 m	21.0	W N W 2	Flying clouds; at night thick clouds,
	3 a	25 0		with ſtorm and rain.
27	7 m	17.0	W 2	Thick, ſcattered clouds.
	2 a	25.0		Pretty cool.
28	7 m	15.0	W 1	Flying clouds.
	2 a	25.0		
29	7 m	16.0	W 2	Flying clouds.
	2 a	25.0		
30	5 m	13.0	W N W 1	Fair.
	— a	25.0	W 1	Cloudy.
31	5 m	13.0	S W 1	Somewhat cloudy.
	1 a	27.0		Fair.

D.	H.	Ther.	Wind.	The Weather in general.
1	5 m	23.0	S W 1	Rain the preceding night.
2			S E 1	Morning cloudy,—clears up at ten,—flying clouds.
3	7 m	24.0	S W 1	Flying clouds; afternoon, thunder-clouds, with rain from the N. W.
4	3 a	26.0	N W 1	Flying clouds.
5	5½ m	15.5	S 1	Fair.
	3 a	22.0		
6	5 m	18.5	S W 1	Alternately fair and cloudy.
	3 a	23.0		
7	All d	20.0		Cloudy and rainy.
8	6 m	15.5	N W 0	Cloudy.
	3 a	23.0	— 1	Flying clouds.
9	5 m	13.0		Fair.
10	5 m	11.0	S W 1	Fair.
	3 a	22.5		
11	7 m	20.0	N 1	Flying clouds.
	2 a	33.0	S W 1	Thunder-ſtorm, with rain.
12	6 m	23.0	N 0	Fair.
	3 a	32.0	S 2	Somewhat cloudy.
13	5 m	19.0	S E 2	Almoſt fair.
	3 a	27.0		
14	6 m	26.0	S 1	Fair.
	3 a	25.0		Thunder-clouds, with rain.
15	6 m	18.0	N 0	Fair.
	3 a	26.5		
16	6 m	20.0	N N E 1	Fair.
	2 a	28.0		
17	5½ m	18.0	N 0	Fair.
	3 a	27.5		
18	5 m	21.0	E S E 1	Fair.
	3 a	32.0	N E 1	Thunder, with heavy ſhowers.
19	6 m	20.0	N N W 1	Fair.
	3 a	27.0		
20	5 m	18.0	S 1	Fair.
	3 a	26.0		Cloudy.
21	5 m	23.0	S W 0	Cloudy, with ſome ſhowers.
22	5 m	9.0	W 1	Fair.
23	6 m	17.0	S 1	Fair.
	— a		N W 1	Cloudy.
24	6 m	20.5	S 1	Cloudy, afterwards fair.
	— a		S W 1	Thunder and rain.

D.	H.		Ther.	Wind.	The Weather in general.
25	5	m	23.0	S 1	Fair.
	2	a	32.0		
26	5	m	12.0	N 1	Fair.
27	6	m	11.0		Fair.
28	6	m	18.0	S 1	Fair.
	1	a	35.0		
29	7	m	6.0		Fair.
30	5	m	11.0	S 1	Fair.
	3	a	31.0	W 1	

July

D.	H.	Ther.	Wind.	The Weather in general.
1			N 3	Flying clouds.
2	5 m	7.5	N 2	Fair.
3	8 m	26.0	N 1	Fair.
	2 a	28.0	— 1	Thunder-ſtorm, and rain at night.
4	6 m	20.0	S 1	Cloudy; intermittent ſhowers in the
	— a		N 2	afternoon.
5			W 1	Fair.
	4 a	26.0	— 1	Cloudy; rain at night.
6	5½ m	18.0	S W 1	Rain all the preceding night; fair in day-time.
7	4½ m	17.0	N W 0	Fair.
8	6 m	16.0	N 0	Alternately fair and cloudy. A halo round the ſun, in the forenoon.
9	7 m	21.0	S W 0	Rain the preceding night. In day time cloudy, with ſome ſhowers.
	3 a	22.0		
10	4¾ m	18.0	S W 0	Fair; ſometimes flying clouds and
	3 a	24.5	— 1	ſhowers.
11	5 m	17.0	S S E 1	Fair.
	2 a	26.0	— 1	
12	5 m	22.0	W 1	Fair.
13	6 m	20.0	S S W 1	Fair.
	3 a	33.0	— 1	
14	5 m	21.0	W S W 1	Fair.
	2 a	28.0	— 1	
15	5 m	26.0	N N E 1	Fair.
	3 a	28.0	— 1	
16	5 m	14.0	S 0	Fair; ſometimes cloudy.
	10 m		S S E 1	
17	5 m	19.0	S 1	Fair.
	3 a	24.0	— 1	Cloudy.
18	5 m	15.0	N N E 0	Fair.
	2 a	25.0	— 0	
19	5 m	19.0	S S W 1	Cloudy; rain.
	— a			Pretty fair.
20	5 m	19.0	S 1	Fair.
	3 a	24.0	— 1	Cloudy; ſome rain.
21			S 0	Fair.
	3 a	27.0	— 0	Flying clouds.
22	5 m	16.0	S W 2	Fair.
	3 a	27.0	S W 2	
23	6 m	19.0	S S W 1	Alternately fair and cloudy.
	3 a	28.5	— 1	

D.	H.	Ther.	Wind.	The Weather in general.
24	6 m	20.0	S W 1	Fair.
	3 a	29.0	— 1	
25	5 m	20.0	W S W 0	Fair.
	3 a	29.5	— 0	
26	5 m	21.0	S 0	Fair.
	3 a	30.0	— 1	
27	5 m	22.0	W 1	Cloudy; intermittent ſhowers.
	3 a	21.5	— 1	
28	6 m	17.0	W 1	Fair.
	3 a	27.0	— 1	
29	6 m	16.0	N W ½	Fair; flying clouds at night, and
	2 a	24.0	— 1	ſhowers.
30	6 m	14.0	W N W 1	Fair.
	2 a	26.0	— 1	
31	6 m	16.0	E 1	Cloudy; rain almoſt all day.
	3 a	22.0	— 1	

Auguſt

D.	H.		Ther.	Wind.	The Weather in general.
1	6	m	22.0	N E 1	Cloudy. Some ſhowers.
	3	a	28.0	— 1	
2	4½	m	16.0	N E 1	Fair.
		a		S E 1	Cloudy. Fair towards night.
3	5	m	13.0	S W 2	Fair.
4		m		N E 2	Cloudy. Some ſhowers.
	2	a	21.0	— 2	
5		m		N E 1	Fair.
		a		S W 1	
6	5	m	16.0	N E 3	Heavy rain all day.
	3	a	16.0	— 3	Some thunder.
7	6	m	13.0	E S E 1	Cloudy. Frequent ſhowers.
	3	a	16.0	— 1	
8	6	m	16.0	S W 1	Cloudy. Some ſhowers.
	3	a	27.0	— 1	
9	6	m	14.0	S W 1	Flying clouds.
	1	a	20.0	— 1	Rain at night.
10	6	m	14.0	S W 1	Flying clouds.
	3	a	24.0	— 1	
11	6	m	15.5	W 1	Cloudy.
12	6	m	14.0	W 1	Flying clouds.
	2	a	25.0	— 1	
13	7	m	15.5	N W 1	Fair.
	2	a	30.0	— 1	
14	6	m	16.0	N E 2	Fair.
	2	a	26.0	— 2	
15	6	m	14.0	N E 1	Fair.
	2	a	28.0	— 1	
16	5	m	14.0	S E 1	Fair. At night thunder and rain.
	3	a	26.0	— 1	
17	5	m	14.5	S 0	Flying clouds.
	3	a	27.0	— 0	
18	5	m	16.0	W 1	Thunder and rain in the morning. At
	3	a	29.0	— 1	ten in the morning flying clouds.
19	6	m	17.0	W 1	Fair.
	3	a	30.0	— 1	
20	5	m	16.5	S W 0	Fair.
	3	a	28.0	— 0	
21	5	m	17.0	S W 1	Fair.
	2	a	29.0	— 1	
	5	a	27.0	— 1	
22	5	m	19.0	N E 2	Rain all day.
	3	a	17.5		

D.	H.	Ther.	Wind.	The Weather in general.
23	5 m	16.5	S W 3	Rain early in the morning. At 10 m.
	2 a	22.5	— 3	flying clouds.
24	6 m	13.5	S W 2	Flying clouds.
	2 a	22.0	— 2	
25	5 m	7.0	S W 2	Fair.
	4 a	20.5	— 2	
26	5 m	13.0	N E 1	Alternately fair and cloudy.
	3 a	18.0	— 1	Much rain this afternoon.
27	5 m	10.5	S W 1	Flying clouds.
	2 a	23.0	— 1	
28	5 m	10.0	S W 1	Fair.
	2 a	20.0	— 1	
29	5 m	13.0	N E 2	Fair.
30	5½ m	11.0	N E 2	Fair.
31	6 m	13.6	S 1	Fair and cloudy alternately.
	3 a	18.5	— 1	Intermittent ſhowers.

D.	H.	Ther.	Wind.	The Weather in general.
1	5½m	14.5	N N W 1	Fair.
	3 a	30.0	— 1	
2	5½m	9.0	N 1	Fair.
	2 a	18.0	S S W 1	
3	5½m	7.5	S 1	Somewhat cloudy. Now and then fair.
	2 a	20.0	— 1	
4	6 m	14.0	S 1	Now and then a ſhower; and in the
	2 a	17.5	— 1	intervals fair.
5	6 m	14.0	N E 2	Fog. Rain all day. Now and then thund.
6	10½m	15.0	N E 2	Fog, and drizzling rain all day.
	10½ a	15.0	— 2	
7	7 m	17.0	S W 1	Fog and rain.
	3 a	22.0	— 1	Fair.
8	5½m	15.0	S S W 1	Fair.
	4 a	28.0	— 1	
9	5 m	17.5	E N E 2	Fair.
	3 a	25.0	— 2	
10	5½m	16.0	N E 2	Fair.
	3 a	26.0	— 2	
11	5½m	15.0	E N E 0	Fair.
	3 a	25.0	— 0	
12	7 m	14.5	N N E 1	Fair.
	a		S W 1	
13	5½m	14.0	N E 1	Fair.
	1½ a	24.5	— 1	
14	5 m	15.0	N E 2	Fair.
	1 a	22.5	— 2	
15	5½m	16.0	N N E 3	Fair. Forenoon, a halo round the ſun.
	2 a	19.0	— 3	
16	5½m	8.5	N N E 1	Fair.
	3 a	20.5	— 1	
17	5 m	12.0	S W 0	Fair.
18	6 m	17.0	S W 1	Fair,
	3 a	27.0	— 1	
19	6 m	14.0	S W 1	Fair.
	3 a	26.0	— 1	
20	6 m	19.0	S W 1	Fair.
	3 a	26.0	— 1	Cloudy. Rain towards night.
21	6 m	15 0		Fair.
	3 a	19.5		
22	6 m	13.0	E 0	Somewhat cloudy.
	3 a	22.0	— 0	

D.	H.	Ther	Wind.	The Weather in general.
23	6 m	14.0	S W 0	Fair.
24	6 m	18.0	S W 2	Fair. Rain at noon.
	2 a	26.0	— 2	Flying clouds in the afternoon.
25	7 m	16.0	W 1	Alternately clear and cloudy.
	2 a	17.0	— 1	
26	8 m	12.5	N E 1	Fair.
	3 a	11.5	— 1	Cloudy and rainy.
27	6 m	9.3	N 1	Rainy all day.
	3 a	14.0	— 1	
28	6 m	8.0	S W 1	Heavy rain all day.
	3 a	14.0	— 1	
29	6 m	8.0	S 1	Fog.
	1 a	13.0	— 1	Flying clouds.
30	8 m	14.0	S W 2	Drizzling rain.
	2 a	18.0	— 2	Somewhat clear.

October 1749.

D.	H.	Ther.	Wind.	The Weather in general.
1	7½ m	9.0	N W 1	Rain.
	n		— 1	Somewhat fair.
2	7 m	2.0	W 1	Hoar froft this morning. Fair all day.
3	6 m	3.5	S W 1	Fair.
	1 a	12.0	— 1	
4	6 m	11.0	S 1	Rain.
5	6 m	10.5	N E 1	Cloudy.
	a	11.0	— 1	
6	6½ m	10.0	E N E 1	Rain all day.
	3 a	12.0	— 1	
7	6½ m	10.0	E N E 1	Flying clouds.
	2 a	14.0		
8	6½ m	7.0	S 1	Fair.
	3 a	18.0	S 1	

METEOROLOGICAL OBSERVATIONS,

Made by Mr. JOHN BARTRAM, near *Philadelphia*,
During my Absence, in the Summer of the Year 1749.

June 1749.

D.	Ther. Morn	Ther. Aft.	Wind.	The Weather in general.
1	22	25	W	Cloudy.
2	20	27	W	Cloudy.
3	23	28	W	Showers.
4	22	28	W	Fair.
5	18	25	W	Fair.
6	18	25	W	Cloudy.
7	22	22	N E	Cloudy.
8		21	N E	
9		21	N	
10	14	22	E	
11	22	23	E	
12	25	25	E	
13	23	25	E	
14	25	27	E 3	
15	24	28	E	Fair.
16	22	26	E	
17	23	27	E	
18	25	27	E	
19	23	24	N W	
20	17	26	W	
21	24	26	W	
22	18	27	W	
23	15	29	W	
24	22	30	W	
25	22	31	W	
26	23	30	N	
27	19	32	W	
28	24	36	W	
29	25	37	W	
30	25	36	N	

D	Ther. Morn	Ther Aft.	Wind.	The Weather in general.
1	21	30	W	
2	18	27	N W	
3	26	28	S W	Heavy ſhowers.
4	24	36	N W	
5	22	32	W	
6	22	34	N W	Rain.
7	20	35	W	Hard ſhowers.
8	20	35	N E	Rain.
9	20	29	N	Fair.
10	16	29	N	Fair.
11	17	33	N W	Fair.
12	20	35	W	Fair. Rain at night.
13	22	33	W	Fair.
14	26	30	W	Hard ſhowers.
15	20	29	N	Fair.
16	21	30	E	Rain.
17	29	29	N E	Cloudy.
18	18	19	N E	Rain.
19	18	33	W	Fair.
20	19	33	W	Fair.
21	22	31	W	Fair.
22	23	23	W	Heavy ſhowers.
23	23	25	W	Heavy ſhowers.
24	20	36	W	Fair.
25	27	36	W	
26	28	32	W	
27	24	30	W	Fair.
28	19	27	W	Fair.
29	23	30	W	Rain.
30	30	34		
31	21	34		

D.	Ther. Morn	Ther Aft.	Wind.	The Weather in general.
1				
2	18	32		
3	17	30		
4	18	33		
5	22	39	W	
6	18	37	N 2	
7	17	27	W	
8	14	25	N W	
9	12	24	N W	
10	13	24	N W	
11	11	25	N W	
12	14½	30	N W	
13	18	31	N W	
14	18	30	W	
15	15	30	W	Rain.
16	23	33	N	
17	14	34	N W	
18	18	37	W	
19	18	25	S W	
20	20	26	N E	Rain.
21	20	25	N W	
22	23	34	N W	
23	17	34	W	
24	18	30	W	
25	20	32	NW by W	
26	10	24	N W	Fair.
27	12	20	N W	Fair.
28	13	23	N W	Fair.
29	22	24	W	Fair.
30	17	25	E	
31	20	29	E	

D.	Ther. Morn	Ther. Aft.	Wind.	The Weather in general.
1	19	30	E	Hard ſhowers.
2	18	20	E	Rain.
3	19	25	E	Rain.
4	22	25	E	Foggy.
5	23	21	N E	Cloudy.
6	23	37	N E	Cloudy.
7	24	34	N E	Cloudy.
8	24	32	N E	Cloudy.
9	23	33	N E	Rain.
10	23	32	W	Rain.
11	19	25	N E	
12	13	25	N E	
13	12	20	N E	
14	12	33	N E	
15	13	27	N E	
16	20	26	N E	
17	17	27	E	
18	16	34	S E	
19	12	30	S W	
20	17	26		
21	17	25	W	
22	15	30	E	
23	20	29	E	
24	21	29	W	
25	23	28	W 3	
26	20	15	E by N	Thunder-ſtorm.
27	15	19	N W	
28	10	20	N W	
29				
30	6	26	W	

October 1749.

D.	Ther. M.	Ther. Aft.	Wind.	D	Ther. M.	Ther. Aft.	Wind.
1	13	25	W	5	17	30	E
2	14	29	N W	6	18	30	E
3	8	15	N	7	16	21	N W
4	13	29	W	8	11	22	N W

July

July 1ſt. 1749. AT day break we got up, and rowed a good while before we got to the place where we left the true road. The country which we paſſed was the pooreſt and moſt diſagreeable imaginable. We ſaw nothing but a row of amazing high mountains covered with woods, ſteep and dirty on their ſides; ſo that we found it difficult to get to a dry place, in order to land and boil our dinner. In many places the ground, which was very ſmooth, was under water, and looked like the ſides of our *Swediſh* moraſſes which are intended to be drained; for this reaſon the *Dutch* in *Albany* call theſe parts the *Drowned Lands* *. Some of the mountains run from S. S. W. to N. N. E. and when they come to the river, they form perpendicular ſhores, and are full of ſtones of different magnitudes. The river runs for the diſtance of ſome miles together from ſouth to north.

THE wind blew north all day, and made it very hard work for us to get forwards, though we all rowed as hard as we could, for all our proviſions were eaten to-day at breakfaſt. The river was frequently an *Engliſh* mile and more broad, then it became narrow again, and ſo on alternately; but upon the whole it kept a good breadth, and was ſurrounded on both ſides by high mountains.

ABOUT ſix o'clock in the evening, we arrived at a point of land, about twelve *Engliſh* miles from Fort St. *Frederic*, Behind this point the river is converted into a ſpacious bay; and as the wind ſtill kept blowing pretty ſtrong from the north, it was impoſſible for us to get forward,

* *De verdronkene landen.*

ſince we were extremely weak. We were therefore obliged to paſs the night here, in ſpite of the *remonſtrances* of our hungry ſtomachs.

It is to be attributed to the peculiar grace of God towards us that we met the above mentioned *Frenchmen* on our journey, and that they gave us leave to take one of their bark boats. It ſeldom happens once in three years, that the *French* go this road to *Albany*; for they commonly paſs over the lake St. *Sacrament*, or, as the *Engliſh* call it, lake *George*, which is the nearer and better road, and every body wondered why they took this troubleſome one. If we had not got their large ſtrong boat, and been obliged to keep that which we had made, we would in all probability have been very ill off; for to venture upon the great bay during the leaſt wind with ſo wretched a veſſel, would have been a great piece of temerity, and we ſhould have been in danger of being ſtarved if we had waited for a calm. For being without fire-arms, and theſe deſerts having but few quadrupeds, we muſt have ſubſiſted upon frogs and ſnakes, which, (eſpecially the latter) abound in theſe parts. I can never think of this journey, without reverently acknowledging the peculiar care and providence of the merciful Creator.

July 2d. Early this morning we ſet out on our journey again, it being moon-ſhine and calm, and we feared leſt the wind ſhould change and become unfavourable to us if we ſtopped any longer. We all rowed as hard as poſſible, and happily arrived about eight in the morning at Fort St. *Frederic*, which the *Engliſh* call *Crown*

Crown Point. Monſieur *Luſignan*, the governor, received us very politely. He was about fifty-years old, well acquainted with polite literature, and had made ſeveral journies into this country, by which he had acquired an exact knowledge of ſeveral things relative to its ſtate.

I WAS informed that during the whole of this ſummer, a continual drought had been here, and that they had not had any rain ſince laſt ſpring. The exceſſive heat had retarded the growth of plants; and on all dry hills the graſs, and a vaſt number of plants, were quite dried up; the ſmall trees, which grew near rocks, heated by the ſun, had withered leaves, and the corn in the fields bore a very wretched aſpect. The wheat had not yet eared, nor were the peaſe in bloſſoms. The ground was full of wide and deep cracks, in which the little ſnakes retired and hid themſelves when purſued, as into an impregnable aſylum.

THE country hereabout, it is ſaid, contains vaſt foreſts of firs of the white, black, and red kind, which had been formerly ſtill more extenſive. One of the chief reaſons of their decreaſe are, the numerous fires which happen every year in the woods, through the careleſſneſs of the *Indians*, who frequently make great fires when they are hunting, which ſpread over the fir woods when every thing is dry.

GREAT efforts are made here for the advancement of *Natural Hiſtory*, and there are few places in the world where ſuch good regulations are made for this uſeful purpoſe, all which is chiefly owing to the care and zeal of a ſingle

perſon. From hence it appears, how well a uſeful ſcience is received and ſet off, when the leading men of a country are its patrons. The governor of the fort was pleaſed to ſhew me a long paper, which the then governor-general of *Canada*, the Marquis *la Galiſſonniere*, had ſent him. It was the ſame marquis, who, ſome years after, as a *French* admiral, engaged the *Engliſh* fleet under admiral *Byng*, the conſequence of which was the conqueſt of *Minorca*. In this writing, a number of trees and plants are mentioned, which grow in *North-America*, and deſerve to be collected and cultivated on account of their uſeful qualities. Some of them are deſcribed, among which is the *Polygala Senega*, or *Rattle-ſnake-root*; and with ſeveral of them the places where they grow are mentioned. It is further requeſted that all kinds of ſeeds and roots be gathered here; and, to aſſiſt ſuch an undertaking, a method of preſerving the gathered ſeeds and roots is preſcribed, ſo that they may grow, and be ſent to *Paris*. Specimens of all kinds of minerals are required; and all the places in the *French* ſettlements are mentioned, where any uſeful or remarkable ſtone, earth, or ore has been found. There is likewiſe a manner of making obſervations and collections of curioſities in the animal kingdom. To theſe requeſts it is added, to enquire and get information, in every poſſible manner, to what purpoſe and in what manner the *Indians* employ certain plants and other productions of nature, as medicines, or in any other caſe. This uſeful paper was drawn up by order of the marquis

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la Galiſſonniere, by M. *Gaultier*, the royal phyſician at *Quebec*, and afterwards corrected and improved by the marquis's own hand. He had ſeveral copies made of it, which he ſent to all the officers in the forts, and likewiſe to other learned men who travelled in the country. At the end of the writing is an injunction to the officers, to let the governor-general know which of the common ſoldiers had uſed the greateſt diligence in the diſcovery and collection of plants and other natural curioſities, that he might be able to promote them, when an opportunity occurred, to places adapted to their reſpective capacities, or to reward them in any other manner. I found that the people of diſtinction, in general here, had a much greater taſte for natural hiſtory and other parts of literature than in the *Engliſh* colonies, where it was every body's ſole care and employment to ſcrape a fortune together, and where the ſciences were held in univerſal contempt.* It was ſtill complained

* It ſeems Mr. *Kalm* has forgotten his own aſſertions in the former part of this work. Dr. *Colden*, Dr. *Franklin*, and Mr. *Bartram*, have been the great promoters and inveſtigators of nature in this country; and how would the inhabitants of *Old England* have gotten the fine collections of *North-American* trees, ſhrubs, and plants, which grow at preſent almoſt in every garden, and are as if it were naturalized in *Old England*, had they not been aſſiſted by their friends, and by the curious in *North-America*. One need only caſt an eye on Dr. *Linnæus's* new edition of his *Syſtema*, and the repeated mention of Dr. *Garden*, in order to be convinced that the *Engliſh* in *America* have contributed a greater ſhare towards promoting natural hiſtory than any nation under heaven, and certainly more than the *French*, though their learned men are often handſomely penſioned by their great *Monarque*: on the other hand the *Engliſh* ſtudy that branch of knowledge, from the ſole motive of its utility, and the pleaſure it affords to a thinking being, without any of thoſe mercenary

complained of here, that thoſe who ſtudied natural hiſtory, did not ſufficiently enquire into the medicinal uſe of the plants of *Canada*.

The *French*, who are born in *France*, are ſaid to enjoy a better health in *Canada* than in their native country, and to attain to a greater age than the *French* born in *Canada*. I was likewiſe aſſured that the *European Frenchmen* can do more work, and perform more journies in winter, without prejudice to their health, than thoſe born in this country. The intermitting fever which attacks the *Europeans* on their arrival in *Penſylvania*, and which as it were makes the climate familiar to them, is not known here, and the people are as well after their arrival as before. The *Engliſh* have frequently obſerved, that thoſe who are born in *America* of *European* parents, can never bear ſea-voyages, and go to the different parts of *South-America*, as well as thoſe born in *Europe*. The *French* born in *Canada* have the ſame conſtitutions; and when any of them go to the *Weſt-India* iſlands, ſuch as *Martinique*, *Domingo*, &c. and make ſome ſtay there, they commonly fall ſick and die ſoon after: thoſe who fall ill there ſeldom recover, unleſs they are brought back to *Canada*. On

mercenary views held forth to the learned of other countries. And as to the other parts of literature, the *Engliſh* in *America* are undoubtedly ſuperior to the *French* in *Canada*, witneſs the many uſeful inſtitutions, colleges, and ſchools founded in the *Engliſh* colonies in *North-America*, and ſo many very conſiderable libraries now erecting in this country, which contain ſuch a choice of uſeful and curious books, as were very little known in *Canada* before it fell into the hands of the *Engliſh*; not to mention the productions of original genius written by *Americans* born. F.

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the contrary, thoſe who go from *France* to thoſe iſlands can more eaſily bear the climate, and attain a great age there, which I heard confirmed in many parts of *Canada*.

July 5th. WHILST we were at dinner, we ſeveral times heard a repeated diſagreeable outcry, at ſome diſtance from the fort, in the river *Woodcreek:* Mr. *Luſignan*, the governor, told us this cry was no good omen, becauſe he could conclude from it that the *Indians*, whom we eſcaped near Fort *Anne*, had completed their deſign of revenging the death of one of their brethren upon the *Engliſh*, and that their ſhouts ſhewed that they had killed an *Engliſhman*. As ſoon as I came to the window, I ſaw their boat, with a long pole at one end, on the extremity of which they had put a bloody ſkull. As ſoon as they were landed, we heard that they, being ſix in number, had continued their journey (from the place where we had marks of their paſſing the night), till they had got within the *Engliſh* boundaries, where they found a man and his ſon employed in mowing the corn. They crept on towards this man, and ſhot him dead upon the ſpot. This happened near the very village, where the *Engliſh*, two years before, killed the brother of one of theſe *Indians*, who were then gone out to attack them. According to their cuſtom they cut off the ſkull of the dead man, and took it with them, together with his clothes and his ſon, who was about nine years old. As ſoon as they came within a mile of *Fort St. Frederic*, they put the ſkull on a pole, in the fore part of the boat, and ſhouted

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as a ſign of their ſucceſs. They were dreſſed in ſhirts, as uſual, but ſome of them had put on the dead man's clothes; one his coat, the other his breeches, another his hat, &c. Their faces were painted with vermillion, with which their ſhirts were marked acroſs the ſhoulders. Moſt of them had great rings in their ears, which ſeemed to be a great inconvenience to them, as they were obliged to hold them when they leaped, or did any thing which required a violent motion. Some of them had girdles of the ſkins of *Rattle-ſnakes*, with the rattles on them; the ſon of the murdered man had nothing but his ſhirt, breeches and cap, and the *Indians* had marked his ſhoulders with red. When they got on ſhore, they took hold of the pole on which the ſkull was put, and danced and ſung at the ſame time. Their view in taking the boy, was to carry him to their habitations, to educate him inſtead of their dead brother, and afterwards to marry him to one of their relations. Notwithſtanding they had perpetrated this act of violence in time of peace, contrary to the command of the governor in *Montreal*, and to the advice of the governor of St. *Frederic*, yet the latter could not at preſent deny them proviſions, and whatever they wanted for their journey, becauſe he did not think it adviſeable to exaſperate them; but when they came to *Montreal*, the governor called them to account for this action, and took the boy from them, whom he afterwards ſent to his relations: Mr. *Luſignan* aſked them, what they would have done to me and my companions, if they had met us in the deſert? They

replied, that as it was their chief intention to take their revenge on the *Engliſhmen* in the village where their brother was killed, they would have let us alone; but it much depended on the humour they were in, juſt at the time when we firſt came to their ſight. However, the commander and all the *Frenchmen* ſaid, that what had happened to me was infinitely ſafer and better.

SOME years ago a ſkeleton of an amazing great animal had been found in that part of *Canada* where the *Illinois* live. One of the lieutenants in the fort aſſured me, that he had ſeen it. The *Indians*, who were there, had found it in a ſwamp. They were ſurpriſed at the ſight of it, and when they were aſked, what they thought it was? They anſwered, that it muſt be the ſkeleton of the chief or father of all the beavers. It was of a prodigious bulk, and had thick white teeth, about ten inches long. It was looked upon as the ſkeleton of an elephant. The lieutenant aſſured me that the figure of the whole ſnout was yet to be ſeen, though it was half mouldered. He added, that he had not obſerved, that any of the bones were taken away, but thought the ſkeleton lay quite perfect there. I have heard people talk of this monſtrous ſkeleton in ſeveral other parts of *Canada* *.

BEARS are plentiful hereabouts, and they kept a young one, about three months old, at the fort.

* The country of the *Illinois* is on the river *Ohio*, near the place where the *Engliſh* have found ſome bones, ſuppoſed to belong to elephants.

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He had perfectly the same shape, and qualities, as our common bears in *Europe*, except the ears, which seemed to be longer in proportion, and the hairs which were stiffer; his colour was deep brown, almost black. He played and wrestled every day with one of the dogs. A vast number of bear-skins are annually exported to *France* from *Canada*. The *Indians* prepare an oil from bear's grease, with which in summer they daub their face, hands, and all naked parts of their body, to secure them from the bite of the gnats. With this oil they likewise frequently smear the body, when they are excessively cold, tired with labour, hurt, and in other cases. They believe it softens the skin, and makes the body pliant, and is very serviceable to old age.

The common *Dandelion (Leontodon Taraxacum Linn.)* grows in abundance on the pastures and roads between the fields, and was now in flower. In spring, when the young leaves begin to come up, the *French* dig up the plants, take their roots *, wash them, cut them, and prepare them as a common sallad; but they have a bitter taste. It is not usual here to make use of the leaves for eating.

July 6th. The soldiers, which had been paid off after the war, had built houses round the fort, on the grounds alloted to them; but most of these habitations were no more than wretched

* In *France* the young blanched leaves, which scarce peep out of molehills, and have yet a yellow colour, are universally eaten as a sallad, under the name of *Piſenlit*. F.

cottages,

cottages, no better than thoſe in the moſt wretched places of *Sweden*; with that difference, however, that their inhabitants here were rarely oppreſſed by hunger, and could eat good and pure wheat bread. The huts which they had erected conſiſted of boards, ſtanding perpendicularly cloſe to each other. The roofs were of wood too. The crevices were ſtopped up with clay, to keep the room warm. The floor was commonly clay, or a black lime-ſtone, which is common here. The hearth was built of the ſame ſtone, except the place where the fire was to ly, which was made of grey ſand-ſtones, which for the greateſt part conſiſt of particles of quartz. In ſome hearths, the ſtones quite cloſe to the fire-place were lime-ſtones; however, I was aſſured that there was no danger of fire, eſpecially if the ſtones, which were moſt expoſed to the heat, were of a large ſize. They had no glaſs in their windows.

July 8th. The *Galium tinctorium* is called *Tiſavojaune rouge* by the *French* throughout all *Canada*, and abounds in the woods round this place, growing in a moiſt but fine ſoil. The roots of this plant are employed by the *Indians* in dying the quills of the *American* porcupines red, which they put into ſeveral pieces of their work; and air, ſun, or water, ſeldom change this colour. The *French* women in *Canada* ſometimes dye their clothes red with theſe roots, which are but ſmall, like thoſe of *Galium luteum*, or yellow bedſtraw.

The horſes are left out of doors during the winter, and find their food in the woods, living upon

upon nothing but dry plants, which are very abundant; however they do not fall off by this food, but look very fine and plump in ſpring.

July 9th. THE ſkeleton of a whale was found ſome *French* miles from *Quebec*, and one *French* mile from the river *St. Laurence*, in a place where no flowing water comes to at preſent. This ſkeleton has been of a very conſiderable ſize, and the governor of the fort ſaid, he had ſpoke with ſeveral people who had ſeen it.

July 10th. THE boats which are here made uſe of are of three kinds. 1. *Bark-boats*, made of the bark of trees, and of ribs of wood. 2. *Canoes*, conſiſting of a ſingle piece of wood, hollowed out, which I have already deſcribed before. They are here made of the white fir, and of different ſizes. They are not brought forward by rowing, but by paddling; by which method not half the ſtrength can be applied; which is made uſe of in rowing; and a ſingle man might, I think, row as faſt as two of them could paddle. 3. The third kind of boats are *Bateaux*. They are always made very large here, and employed for large cargoes. They are flat-bottomed, and the bottom is made of the red, but more commonly of the white oak, which reſiſts better, when it runs againſt a ſtone, than other wood. The ſides are made of the white fir, becauſe oak would make the *Bateau* too heavy. They make plenty of tar and pitch here.

THE ſoldiery enjoy ſuch advantages here, as they are not allowed in every part of the world. Thoſe

Thoſe who formed the garriſon of this place had a very plentiful allowance from their government. They get every day a pound and a half of wheat bread. They likewiſe get peaſe, bacon, and ſalt meat in plenty. Sometimes they kill oxen and other cattle, the fleſh of which is diſtributed among the ſoldiers. All the officers kept cows, at the expence of the king, and the milk they gave was more than ſufficient to ſupply them. The ſoldiers had each a ſmall garden without the fort, which they were allowed to attend, and plant in it whatever they liked, and ſome of them had built ſummer-houſes in them, and planted all kind of pot-herbs. The governor told me, that it was a general cuſtom to allow the ſoldiers a ſpot of ground for kitchen-gardens, at ſuch of the *French* forts hereabouts as were not ſituated near great towns, from whence they could be ſupplied with greens. In time of peace the ſoldiers have very little trouble with being upon guard at the fort; and as the lake cloſe by is full of fiſh, and the woods abound with birds and animals, thoſe amongſt them who chooſe to be diligent may live extremely well, and very grand in regard to food. Each ſoldier got a new coat every two years; but annually, a waiſtcoat, cap, hat, breeches, cravat, two pair of ſtockings, two pair of ſhoes, and as much wood as he had occaſion for in winter. They likewiſe got five *ſols* * a piece every day; which is augmented to thirty ſols when they have any

* A *ſol* in *France* is about the value of one half-penny ſterling,

particular labour for the king. When this is conſidered, it is not ſurpriſing to find the men are very freſh, well fed, ſtrong and lively here. When a ſoldier falls ſick he is brought to the hoſpital, where the king provides him with a bed, food, medicines, and people to take care of and ſerve him. When ſome of them aſked leave to be abſent for a day or two, to go abroad, it was generally granted them, if circumſtances would permit, and they enjoyed as uſual their ſhare of proviſions and money, but were obliged to get ſome of their comrades to mount the guard for them as often as it came to their turns, for which they gave them an equivalent. The governor and officers were duly honoured by the ſoldiers; however, the ſoldiers and officers often ſpoke together as comrades, without any ceremonies, and with a very becoming freedom. The ſoldiers who are ſent hither from *France*, commonly ſerve till they are forty or fifty years old, after which they are diſmiſſed and allowed to ſettle upon, and cultivate a piece of ground. But if they have agreed on their arrival to ſerve no longer than a certain number of years, they are diſmiſſed at the expiration of their term. Thoſe who are born here commonly agree to ſerve the crown during ſix, eight, or ten years; after which they are diſmiſſed, and ſet up for farmers in the country. The king preſents each diſmiſſed ſoldier with a piece of land, being commonly 40 *arpents* * long, and but three broad,

* An *Arpent* in *France* contains 100 *French* perches, and each of thoſe 22 *French* feet; then the *French* foot being to the *Engliſh* as

broad, if the ſoil be of equal goodneſs throughout; but they get ſomewhat more, if it be a worſe ground †. As ſoon as a ſoldier ſettles to cultivate ſuch a piece of land, he is at firſt aſſiſted by the king, who ſupplies himſelf, his wife, and children, with proviſions, during the three or four firſt years. The king likewiſe gives him a cow, and the moſt neceſſary inſtruments for agriculture. Some ſoldiers are ſent to aſſiſt him in building a houſe, for which the king pays them. Theſe are great helps to a poor man, who begins to keep houſe, and it ſeems that in a country where the troops are ſo highly diſtinguiſhed by the royal favour, the king cannot be at a loſs for ſoldiers. For the better cultivation and population of *Canada*, a plan has been propoſed ſome years ago, for ſending 300 men over from *France* every year, by which means the old ſoldiers may always be diſmiſſed, marry, and ſettle in the country. The land which was allotted to the ſoldiers about this place, was very good, conſiſting throughout of a deep mould, mixed with clay.

July the 11th. THE harrows which they make uſe of here are made entirely of wood, and of a triangular form. The ploughs ſeemed to

as 1440 to 1352, an arpent is about 2346 *Engliſh* feet, and 8 inches long. See *Ordonnances de Louis* XIV. *ſur le fait des Eaux & Forêts.* Paris, 1687. p. 112. F.

† Mr. *Kalm* ſays, in his original, that the length of an *arpent* was ſo determined, that they reckoned 84 of them in a *French lieue* or league; but as this does by no means agree with the ſtatute arpent of *France*, which by order of king *Lewis* XIV. was fixed at 2200 feet, *Paris* meaſure, (ſee the preceding note) we thought proper to leave it out of the text. F.

be leſs convenient. The wheels upon which the plough-beam is placed, are as thick as the wheels of a cart, and all the wood-work is ſo clumſily made that it requires a horſe to draw the plough along a ſmooth field.

ROCK-STONES of different ſorts lay ſcattered on the fields. Some were from three to five feet high, and about three feet broad. They were pretty much alike in regard to the kind of the ſtone, however, I obſerved three differert ſpecies in them.

1. SOME conſiſted of a quartz, whoſe colour reſembled ſugar-candy, and which was mixed with a black ſmall-grained glimmer, a black horn-ſtone, and a few minute grains of a brown ſpar. The quartz was moſt abundant in the mixture; the glimmer was likewiſe in great quantity, but the ſpar was inconſiderable. The ſeveral kinds of ſtones were well mixed, and though the eye could diſtinguiſh them, yet no inſtrument could ſeparate them. The ſtone was very hard and compact, and the grains of quartz looked very fine.

2. SOME pieces conſiſted of grey particles of quartz, black glimmer, and horn-ſtone, together with a few particles of ſpar, which made a very cloſe, hard, and compact mixture, only differing from the former in colour.

3. A few of the ſtones conſiſted of a mixture of white quartz and black glimmer, to which ſome red grains of quartz were added. The ſpar (quartz) was moſt predominant in this mixture, and the glimmer appeared in large flakes. This ſtone was not ſo well mixed as the former,

and was by far not ſo hard and ſo compact, being eaſily pounded.

THE mountains on which Fort *St. Frederic* is built, as likewiſe thoſe on which the above kinds of ſtone are found, conſiſted generally of a deep black lime-ſtone, lying in lamellæ as ſlates do, and it might be called a kind of ſlates, which can be turned into quicklime by fire*. This lime-ſtone is quite black in the inſide, and, when broken, appears to be of an exceeding fine texture. There are ſome grains of a dark ſpar ſcattered in it, which, together with ſome other inequalities, form veins in it. The ſtrata which ly uppermoſt in the mountains conſiſt of a grey lime-ſtone, which is ſeemingly no more than a variety of the preceding. The black lime-ſtone is conſtantly found filled with petrifactions of all kinds, and chiefly the following.

Pectinites, or petrified *Oſtreæ Pectines*. Theſe petrified ſhells were more abundant than any others that have been found here, and ſometimes whole ſtrata are met with, conſiſting merely of a quantity of ſhells of this ſort, grown together, They are generally ſmall, never exceeding an inch and a half in length. They are found in two different ſtates of petrifaction; one ſhews always the impreſſions of the elevated and hallow ſurfaces of the ſhells, without any veſtige of the ſhells themſelves. In the other appears the real ſhell ſticking in the ſtone, and by its

* *Marmor ſchiſtoſum*, Linn. Syſt. III. p. 40. *Marmor unicolor nigrum*. Wall. Min. pag. 61. n. 2. *Lime-ſlates, ſchiſtus calcareus*. Forſt. Introd. to Min. p. 9. F.

light colour is eaſily diſtinguiſhable from the ſtone. Both theſe kinds are plentiful in the ſtone; however, the impreſſions are more in number than the real ſhells. Some of the ſhells are very elevated, eſpecially in the middle, where they form as it were a hump; others again are depreſſed in the middle; but in moſt of them the outward ſurface is remarkably elevated. The furrows always run longitudinally, or from the top, diverging to the margin.

Petrified Cornua Ammonis. Theſe are likewiſe frequently found, but not equal to the former in number: like the *pectinitæ*, they are found really petrified, and in impreſſions; amongſt them were ſome petrified ſnails. Some of theſe *Cornua Ammonis* were remarkable big, and I do not remember ſeeing their equals, for they meaſured above two feet in diameter.

DIFFERENT kinds of corals could be plainly ſeen in, and ſeparated from, the ſtone in which they lay. Some were white and ramoſe, or *Lithophytes*; others were ſtarry corals, or *Madrepores*; the latter were rather ſcarce.

I MUST give the name of *Stone-balls* to a kind of ſtones foreign to me, which are found in great plenty in ſome of the rock-ſtones. They were globular, one half of them projecting generally above the rock, and the other remaining in it. They conſiſt of nearly parallel fibres, which ariſe from the bottom as from a center, and ſpread over the ſurface of the ball and have a grey colour. The outſide of the balls is ſmooth, but has a number of ſmall pores, which externally appear to be covered with a pale grey cruſt.

cruſt. They are from an inch to an inch and a half in diameter.

Amongst ſome other kinds of ſand, which are found on the ſhores of lake *Champlain*, two were very peculiar, and commonly lay in the ſame place; and one was black, and the other reddiſh brown, or granite coloured.

The black ſand always lies uppermoſt, conſiſts of very fine grains, which, when examined by a microſcope, appear to have a dark blue colour, like that of a ſmooth iron, not attacked by ruſt. Some grains are roundiſh, but moſt of them angular, with ſhining ſurfaces; and they ſparkle when the ſun ſhines. All the grains of this ſand without exception are attracted by the magnet. Amongſt theſe black or deep blue grains, they meet with a few grains of a red or garnet-coloured ſand, which is the ſame with the red ſand which lies immediately under it, and which I ſhall now deſcribe. This red or garnet-coloured ſand is very fine, but not ſo fine as the black ſand. Its grains not only participate of the colour of garnets, but they are really nothing but pounded garnets. Some grains are round, others angulated; all ſhine and are ſemi-pellucid; but the magnet has no effect on them, and they do not ſparkle ſo much in ſunſhine. This red ſand is ſeldom found very pure, it being commonly mixed with a white ſand, conſiſting of particles of quartz. The black and red ſand is not found in every part of the ſhore, but only in a few places, in the order before mentioned. The uppermoſt or black ſand lay about a quarter of an inch deep; when it was

carefully taken off, the ſand under it became of a deeper red the deeper it lay, and its depth was commonly greater than that of the former. When this was carefully taken away, the white ſand of quartz appeared mixed very much at top with the red ſand, but growing purer the deeper it lay. This white ſand was above four inches deep, had round grains, which made it entirely like a pearl ſand. Below this was a pale grey angulated quartz ſand. In ſome places the garnet-coloured ſand lay uppermoſt, and this grey angulated one immediately under it, without a grain of either the black or the white ſand.

I CANNOT determine the origin of the black or ſteel-coloured ſand, for it was not known here whether there were iron mines in the neighbourhood or not. But I am rather inclined to believe they may be found in theſe parts, as they are common in different parts of *Canada*, and as this ſand is found on the ſhores of almoſt all the lakes, and rivers in *Canada*, though not in equal quantities. The red or garnet-coloured ſand has its origin hereabouts; for though the rocks near Fort *St. Frederic* contained no garnets, yet there are ſtones of different ſizes on the ſhores, quite different from the ſtones which form thoſe rocks; theſe ſtones are very full of grains of garnets, and when pounded there is no perceptible difference between them and the red ſand. In the more northerly parts of *Canada*, or below *Quebec*, the mountains themſelves contain a great number of garnets. The garnet-coloured ſand is very common on the ſhores of the

the river *St. Laurence.* I ſhall leave out ſeveral obſervations which I made upon the minerals hereabouts, as unintereſting to moſt of my readers.

THE *Apocynum androſæmifolium* grows in abundance on hills covered with trees, and is in full flower about this time; the *French* call it *Herbe à la puce.* When the ſtalk is cut or tore, a white milky juice comes out. The *French* attribute the ſame qualities to this plant, which the poiſon-tree, or *Rhus vermix,* has in the *Engliſh* colonies; that its poiſon is noxious to ſome perſons, and harmleſs to others. The milky juice when ſpread upon the hands and body, has no bad effect on ſome perſons; whereas others cannot come near it without being bliſtered. I ſaw a ſoldier whoſe hands were bliſtered all over, merely by plucking the plant, in order to ſhew it me; and it is ſaid its exhalations affect ſome people, when they come within reach of them. It is generally allowed here, that the lacteſcent juice of this plant, when ſpread on any part of the human body not only ſwells the part, but frequently corrodes the ſkin; at leaſt there are few examples of perſons on whom it had no effect. As for my part, it has never hurt me, though in preſence of ſeveral people I touched the plant, and rubbed my hands with the juice till they were white all over, and I have often rubbed the plant in my hands till it was quite cruſhed, without feeling the leaſt inconvenience, or change on my hand. The cattle never touch this plant.

July

July 12th. BURDOCK, or *Arctium Lappa*, grows in ſeveral places about the fort; and the governor told me, that its tender ſhoots are eaten in ſpring as raddiſhes, after the exterior peel is taken off.

THE *Siſon Canadenſe* abounds in the woods of all *North-America*. The *French* call it *cerfeuil ſauvage*, and make uſe of it in ſpring, in green ſoups, like chervil. It is univerſally praiſed here as a whoſeſome, antiſcorbutic plant, and as one of the beſt which can be had here in ſpring.

THE *Aſclepias Syriaca*, or, as the *French* call it, *le Cotonier*, grows abundant in the country, on the ſides of hills which lie near rivers and other ſituations, as well in a dry and open place in the woods, as in a rich, looſe ſoil. When the ſtalk is cut or broken it emits a lacteſcent juice, and for this reaſon the plant is reckoned in ſome degree poiſonous. The *French* in *Canada* nevertheleſs uſe its tender ſhoots in ſpring, preparing them like aſparagus; and the uſe of them is not attended with any bad conſequences, as the ſlender ſhoots have not yet had time to ſuck up any thing poiſonous. Its flowers are very odoriferous, and, when in ſeaſon, they fill the woods with their fragrant exhalations, and make it agreeable to travel in them, eſpecially in the evening. The *French* in *Canada* make a ſugar of the flowers, which for that purpoſe are gathered in the morning, when they are covered all over with dew. This dew is expreſſed, and by boiling yields a very good brown, palatable ſugar. The pods of this plant, when ripe, contain a kind of wool, which encloſes the ſeed, and

and reſembles cotton, from whence the plant has got its *French* name. The poor collect it, and fill their beds, eſpecially their children's, with it inſtead of feathers. This plant flowers in *Canada* at the end of *June*, and beginning of *July*, and the ſeeds are ripe in the middle of *September*. The horſes never eat of this plant.

July 16th. This morning I croſſed lake *Champlain* to the high mountain on its weſtern ſide, in order to examine the plants and other curioſities there. From the top of the rocks, at a little diſtance from fort *St. Frederic*, a row of very high mountains appear on the weſtern ſhore of lake *Champlain*, extending from ſouth to north; and on the eaſtern ſide of this lake is another chain of high mountains, running in the ſame direction. Thoſe on the eaſtern ſide are not cloſe to the lake, being about ten or twelve miles from it; and the country between it and them is low and flat, and covered with woods, which likewiſe clothe the mountains, except in ſcuch places, as the fires, which deſtroy the foreſts here, have reached them and burnt them down. Theſe mountains have generally ſteep ſides, but ſometimes they are found gradually ſloping. We croſſed the lake in a canoe, which could only contain three perſons, and as ſoon as we landed we walked from the ſhore to the top of the mountains. Their ſides are very ſteep, and covered with a mould, and ſome great rock-ſtones lay on them. All the mountains are covered with trees; but in ſome places the foreſts have been deſtroyed by fire. After a great deal of trouble, we reached the top

of

of one of the mountains, which was covered with a dusty mould. It was none of the highest; and some of those which were at a greater distance were much higher, but we had no time to go to them; for the wind encreased, and our boat was but a little one. We found no curious plants, or any thing remarkable here.

When we returned to the shore we found the wind risen to such a height, that we did not venture to cross the lake in our boat, and for that reason I left the fellow to bring it back, as soon as the wind subsided, and walked round the bay, which was a walk of about seven *English* miles. I was followed by my servant, and, for want of a road, we kept close to the shore, where we passed over mountains and sharp stones; through thick forests and deep marshes, all which were known to be inhabited by numberless rattle-snakes, of which we happily saw none at all. The shore is very full of stones in some places, and covered with large angulated rock-stones, which are sometimes roundish, and their edges as it were worn off. Now and then we met with a small sandy spot covered with grey, but chiefly with the fine red sand which I have before-mentioned; and the black iron sand likewise occurred sometimes. We found stones of a red glimmer of a fine texture, on the mountains. Sometimes these mountains with the trees on them stood perpendicular with the water-side, but in some places the shore was marshy.

I saw a number of petrified *Cornua Ammonis* in one place, near the shore, among a number of stones

ſtones and rocks. The rocks conſiſt of a grey lime-ſtone, which is a variety of the black one, and lies in a ſtrata, as that does. Some of them contain a number of petrifactions with, and without ſhells; and in one place we found prodigious large *Cornua Ammonis*, about twenty inches in breadth. In ſome places the water had wore off the ſtone, but could not have the ſame effect on the petrifactions, which lay elevated above, and in a manner glued on the ſtones.

THE mountains near the ſhore are amazingly high and large, conſiſting of a compact grey rock-ſtone, which does not ly in ſtrata as the lime-ſtone, and the chief of whoſe conſtituent parts are a grey quartz, and a dark glimmer. This rock-ſtone reached down to the water, in places where the mountains ſtood cloſe to the ſhore; but where they were at ſome diſtance from it, they were ſupplied by ſtrata of grey and black lime-ſtone, which reached to the water-ſide, and which I never have ſeen covered with the grey rocks.

THE *Zizania aquatica* grows in mud, and in the moſt rapid parts of brooks, and is in full bloom about this time.

July 17th. THE diſtempers which rage among the *Indians* are *rheumatiſms* and *pleuriſies*, which ariſe from their being obliged frequently to ly in moiſt parts of the woods at night; from the ſudden changes of heat and cold, to which the air is expoſed here; and from their being frequently loaded with too great a quantity of ſtrong liquor, in which caſe they commonly ly down

down naked in the open air, without any regard to the ſeaſon, or the weather. Theſe diſtempers, eſpecially the pleuriſies, are likewiſe very common among the *French* here; and the governor told me he had once a very violent fit of the latter, and that Dr. *Sarraſin* had cured him in the following manner, which has been found to ſucceed beſt here. He gave him ſudorifics, which were to operate between eight and ten hours; he was then bled, and the ſudorifics repeated; he was bled again, and that effectually cured him.

Dr. *Sarraſin* was the royal phyſician at *Quebec*, and a correſpondent of the royal academy of ſciences at *Paris*. He was poſſeſſed of great knowledge in the practice of phyſic, anatomy, and other ſciences, and very agreeable in his behaviour. He died at *Quebec* of a malignant fever, which had been brought to that place by a ſhip, and with which he was infected at an hoſpital, where he viſited the ſick. He left a ſon, who likewiſe ſtudied phyſic, and went to *France* to make himſelf more perfect in the practical part of it, but he died there.

The intermitting fevers ſometimes come amongſt the people here, and the venereal diſeaſe is common here. The *Indians* are likewiſe infected with it; and many of them have had it, and ſome ſtill have it; but they likewiſe are perfectly poſſeſſed of the art of curing it. There are examples of *Frenchmen* and *Indians*, infected all over the body with this diſeaſe, who have been radically and perfectly cured by the *Indians*, within five or ſix months. The *French* have

not

not been able to find this remedy out; though they know that the *Indians* employ no mercury, but that their chief remedies are roots which are unknown to the *French*. I have afterwards heard what these plants were, and given an account of them at large to the royal *Swedish* academy of sciences *.

We are very well acquainted in *Sweden* with the pain caused by the *Tæniæ*, or a kind of worms. They are less abundant in the *British North-American* colonies; but in *Canada* they are very frequent. Some of these worms, which have been evacuated by a person, have been several yards long. It is not known, whether the *Indians* are afflicted with them or not. No particular remedies against them are known here, and no one can give an account from whence they come, though the eating of some fruits contributes, as is conjectured, to create them.

July 19th. Fort *St. Frederic* is a fortification, on the southern extremity of lake *Champlain*, situated on a neck of land, between that lake and the river, which arises from the union of the river *Woodcreek*, and lake *St. Sacrement*. The breadth of this river is here about a good musket-shot. The *English* call this fortress *Crown Point*, but its *French* name is derived from the *French* secretary of state, *Frederic Maurepas*, in whose hands the direction and management of the *French* court of admiralty was at the

* See the Memoirs of that Academy, for the year 1750. page 284.
The *Stillingia Sylvatica* is probably one of these roots. F.

time of the erection of this fort: for it is to be obſerved, that the government of *Canada* is ſubject to the court of admiralty in *France*, and the governor-general is always choſen out of that court. As moſt of the places in *Canada* bear the names of ſaints, cuſtom has made it neceſſary to prefix the word *Saint* to the name of the fortreſs. The fort is built on a rock, conſiſting of black lime-ſlates, as aforeſaid; it is nearly quadrangular, has high and thick walls, made of the ſame lime-ſtone, of which there is a quarry about half a mile from the fort. On the eaſtern part of the fort is a high tower, which is proof againſt bombſhells, provided with very thick and ſubſtantial walls, and well ſtored with cannon from the bottom almoſt to the very top; and the governor lives in the tower. In the terre-plein of the fort is a well built little church, and houſes of ſtone for the officers and ſoldiers. There are ſharp rocks on all ſides towards the land, beyond a cannon-ſhot from the fort, but among them are ſome which are as high as the walls of the fort, and very near them.

The ſoil about fort *St. Frederic* is ſaid to be very fertile, on both ſides of the river; and before the laſt war a great many *French* families, eſpecially old ſoldiers, have ſettled there; but the king obliged them to go into *Canada*, or to ſettle cloſe to the fort, and to lie in it at night. A great number of them returned at this time, and it was thought that about forty or fifty families would go to ſettle here this autumn. Within one or two muſket-ſhots to the eaſt of the fort, is a wind-mill built of ſtone, with very thick walls,

walls, and moſt of the flour which is wanted to ſupply the fort is ground here. This windmill is ſo contrived as to ſerve the purpoſe of a redoubt, and at the top of it are five or ſix ſmall pieces of cannon. During the laſt war there was a number of ſoldiers quartered in this mill, becauſe they could from thence look a great way up the river, and obſerve whether the *Engliſh* boats approached; which could not be done from the fort itſelf, and which was a matter of great conſequence, as the *Engliſh* might (if this guard had not been placed here) have gone in their little boats cloſe under the weſtern ſhore of the river, and then the hills would have prevented their being ſeen from the fort. Therefore the fort ought to have been built on the ſpot where the mill ſtands, and all thoſe who come to ſee it are immediately ſtruck with the abſurdity of its ſituation. If it had been erected in the place of the mill, it would have commanded the river, and prevented the approach of the enemy; and a ſmall ditch cut through the looſe lime-ſtone, from the river (which comes out of the lake St. *Sacrement*) to lake *Champlain*, would have ſurrounded the fort with flowing water, becauſe it would have been ſituated on the extremity of the neck of land. In that caſe the fort would always have been ſufficiently ſupplied with freſh water, and at a diſtance from the high rocks which ſurrounded it in its preſent ſituation. We prepared to-day to leave this place, having waited during ſome days for the arrival of the yacht, which plies conſtantly all ſummer between the forts St. *John* and St. *Frederic*: during our ſtay

here, we had received many favours. The governor of the fort, Mr. *Luſignan*, a man of learning and of great politeneſs, heaped obligations upon us, and treated us with as much civility as if we had been his relations. I had the honour of eating at his table during my ſtay here, and my ſervant was allowed to eat with his. We had our rooms, &c. to ourſelves, and at our departure the governor ſupplied us with ample proviſions for our journey to fort *St. John*. In ſhort, he did us more favours than we could have expected from our own countrymen, and the officers were likewiſe particularly obliging to us.

About eleven o'clock in the morning we ſet out, with a fair wind. On both ſides of the lake are high chains of mountains; with the difference which I have before obſerved, that on the eaſtern ſhore is a low piece of ground covered with a foreſt, extending between twelve and eighteen *Engliſh* miles, after which the mountains begin; and the country behind them belongs to *New England*. This chain conſiſts of high mountains, which are to be conſidered as the boundaries between the *French* and *Engliſh* poſſeſſions in theſe parts of *North America*. On the weſtern ſhore of the lake, the mountains reach quite to the water ſide. The lake at firſt is but a *French* mile broad, but always encreaſes afterwards. The country is inhabited within a *French* mile of the fort, but after that, it is covered with a thick foreſt. At the diſtance of about ten *French* miles from fort *St. Frederic*, the lake is four ſuch miles broad, and we perceive

ceive ſome iſlands in it. The captain of the yacht ſaid there were about ſixty iſlands in that lake, of which ſome were of a conſiderable ſize. He aſſured me that the lake was in moſt parts ſo deep, that a line of two hundred yards could not fathom it; and cloſe to the ſhore, where a chain of mountains generally runs acroſs the country, it frequently has a depth of eighty fathoms. Fourteen *French* miles from fort *St. Frederic* we ſaw four large iſlands in the lake, which is here about ſix *French* miles broad. This day the ſky was cloudy, and the clouds, which were very low, ſeemed to ſurround ſeveral high mountains, near the lake, with a fog; and from many mountains the fog roſe as the ſmoke of a charcoal-kiln. Now and then we ſaw a little river which fell into the lake: the country behind the high mountains, on the weſtern ſide of the lake, is, as I am told, covered for many miles together with a tall foreſt, interſected by many rivers and brooks, with marſhes and ſmall lakes, and very fit to be inhabited. The ſhores are ſometimes rocky, and ſometimes ſandy here. Towards night the mountains decreaſed gradually; the lake is very clear, and we obſerved neither rocks nor ſhallows in it. Late at night the wind abated, and we anchored cloſe to the ſhore, and ſpent one night here.

July 20th. THIS morning we proceeded with a fair wind. The place where we paſſed the night, was above half way to fort *St. John*; for the diſtance of that place from fort *St. Frederic*, acroſs lake *Champlain* is computed to be forty-one *French* miles; that lake is here about ſix

Engliſh miles in breadth. The mountains were now out of ſight, and the country low, plain, and covered with trees. The ſhores were ſandy, and the lake appeared now from four to ſix miles broad. It was really broader, but the iſlands made it appear narrower.

We often ſaw *Indians* in bark-boats cloſe to the ſhore, which was however not inhabited; for the *Indians* came here only to catch ſturgeons, wherewith this lake abounds, and which we often ſaw leaping up in the air. Theſe *Indians* lead a very ſingular life: At one time of the year they live upon the ſmall ſtore of maize, beans, and melons, which they have planted; during another period, or about this time, their food is fiſh, without bread or any other meat; and another ſeaſon they eat nothing but ſtags, roes, beavers, &c. which they ſhoot in the woods, and rivers. They, however, enjoy long life, perfect health, and are more able to undergo hardſhips than other people. They ſing and dance, are joyful, and always content; and would not, for a great deal, exchange their manner of life for that which is preferred in *Europe*.

When we were yet ten *French* miles from fort *St. John*, we ſaw ſome houſes on the weſtern ſide of the lake, in which the *French* had lived before the laſt war, and which they then abandoned, as it was by no means ſafe: they now returned to them again. Theſe were the firſt houſes and ſettlements which we ſaw after we had left thoſe about fort *St. Frederic*.

There formerly was a wooden fort, or redoubt, on the eaſtern ſide of the lake, near the water-

water-ſide; and the place where it ſtood was ſhewn me, which at preſent is quite overgrown with trees. The *French* built it to prevent the incurſions of the *Indians* over this lake; and I was aſſured that many *Frenchmen* had been ſlain in theſe places. At the ſame time they told me, that they reckon four women to one man in *Canada*, becauſe annually ſeveral *Frenchmen* are killed on their expeditions, which they undertake for the ſake of trading with the *Indians*.

A WIND-MILL, built of ſtone, ſtands on the eaſt ſide of the lake on a projecting piece of ground. Some *Frenchmen* have lived near it; but they left it when the war broke out, and are not yet come back to it. From this mill to fort *St. John* they reckon eight *French* miles. The *Engliſh*, with their *Indians*, have burnt the houſes here ſeveral times, but the mill remained unhurt.

THE yacht which we went in to *St. John* was the firſt that was built here, and employed on lake *Champlain*, for formerly they made uſe of *bateaux* to ſend proviſions over the lake. The captain of the yacht was a *Frenchman*, born in this country; he had built it, and taken the ſoundings of the lake, in order to find out the true road between fort *St. John* and fort *St. Frederic*. Oppoſite the wind-mill the lake is about three fathoms deep, but it grows more and more ſhallow the nearer it comes to fort *St. John*.

WE now perceived houſes on the ſhore again. The captain had otter-ſkins in the cabin, which were perfectly the ſame, in colour and ſpecies,

with the *European* ones. *Otters* are ſaid to be very abundant in *Canada*.

Seal-ſkins are here made uſe of to cover boxes and trunks, and they often make portmantles of them in *Canada*. The common people had their tobacco-pouches made of the ſame ſkins. The ſeals here are entirely the ſame with the *Swediſh* or *European* one, which are grey with black ſpots. They are ſaid to be plentiful in the mouth of the river St. *Laurence*, below *Quebec*, and go up that river as far as its water is ſalt. They have not been found in any of the great lakes of *Canada*. The *French* call them *Loups marins**.

The *French*, in their colonies, ſpend much more time in prayer and external worſhip, than the *Engliſh* and *Dutch* ſettlers in the *Britiſh* colonies. The latter have neither morning nor evening prayer in their ſhips and yachts, and no difference is made between Sunday and other days. They never, or very ſeldom, ſay grace at dinner. On the contrary, the *French* here have prayers every morning and night on board their ſhipping, and on Sundays they pray more than commonly: they regularly ſay grace at their meals; and every one of them ſays prayers in private as ſoon as he gets up. At Fort St. *Frederic* all the ſoldiers aſſembled together for morning and evening prayers. The only fault was, that moſt of the prayers were read in *Latin*, which a great part of the people do not underſtand. Below the abovementioned wind-

* Sea Wolves.

mill

mill, the breadth of the lake is about a muſket-ſhot, and it looks more like a river than a lake. The country on both ſides is low and flat, and covered with woods. We ſaw at firſt a few ſcattered cottages along the ſhore; but a little further, the country is inhabited without interruption. The lake is here from ſix to ten foot deep, and forms ſeveral iſlands. During the whole courſe of this voyage, the ſituation of the lake was always directly from S. S. W. to N. N. E.

In ſome parts of *Canada* are great tracts of land belonging to ſingle perſons; from theſe lands, pieces, of forty *Arpens* long, and four wide, are allotted to each diſcharged ſoldier who intends to ſettle here; but after his houſhold is eſtabliſhed, he is obliged to pay the owner of the lands ſix *French Francs* annually.

The lake was now ſo ſhallow in ſeveral places, that we were obliged to trace the way for the yacht, by ſounding the depth with branches of trees. In other places oppoſite, it was ſometimes two fathom deep.

In the evening, about ſun-ſet, we arrived at Fort *St. Jean*, or *St. John*, having had a continual change of rain, ſun-ſhine, wind, and calm, all the afternoon.

July 21ſt. St. *John* is a wooden fort, which the *French* built in 1748, on the weſtern ſhore of the mouth of lake *Champlain*, cloſe to the water-ſide. It was intended to cover the country round about it, which they were then going to people, and to ſerve as a magazine for proviſions and ammunition, wich were uſually ſent from

Montreal to Fort *St. Frederic*; becauſe they may go in yachts from hence to the laſt mentioned place, which is impoſſible lower down, as about two gun-ſhot further, there is a ſhallow full of ſtones, and very rapid water in the river, over which they can only paſs in *bateaux*, or flat veſſels. Formerly Fort *Chamblan*, which lies four *French* miles lower, was the magazine of proviſions; but as they were forced firſt to ſend them hither in *bateaux*, and then from hence in yachts, and the road to Fort *Chamblan* from *Montreal* being by land, and much round about, this fort was erected. It has a low ſituation, and lies in a ſandy ſoil, and the country about it is likewiſe low, flat, and covered with woods. The fort is quadrangular, and includes the ſpace of one *arpent* ſquare. In each of the two corners which look towards the lake is a wooden building, four ſtories high, the lower part of which is of ſtone to the height of about a fathom and a half. In theſe buildings which are polyangular, are holes for cannon and leſſer firearms. In each of the two other corners towards the country, is only a little wooden houſe, two ſtories high. Theſe buildings are intended for the habitations of the ſoldiers, and for the better defence of the place; between theſe houſes there are poles, two fathoms and a half high, ſharpned at the top, and driven into the ground cloſe to one another. They are made of the *Thuya* tree, which is here reckoned the beſt wood for keeping from petrifaction, and is much preferable to fir in that point. Lower down the paliſades were double, one row within the other.

other. For the convenience of the ſoldiers, a broad elevated pavement, of more than two yards in height, is made in the inſide of the fort all along the paliſades, with a baluſtrade. On this pavement the ſoldiers ſtand and fire through the holes upon the enemy, without being expoſed to their fire. In the laſt year, 1748, two hundred men were in gariſon here; but at this time there were only a governor, a commiſſary, a baker, and ſix ſoldiers to take care of the fort and buildings, and to ſuperintend the proviſions which are carried to this place. The perſon who now commanded at the fort, was the Chevalier *de Ganues*, a very agreeable gentleman, and brother-in-law to Mr. *Luſignan*, the governor of Fort *St. Frederic*. The ground about the fort, on both ſides the water, is rich and has a very good ſoil; but it is ſtill without inhabitants, though it is talked of, that it would get ſome as ſoon as poſſible.

THE *French* in all *Canada* call the gnats *Marangoins*, which name, it is ſaid, they have borrowed from the *Indians*. Theſe inſects are in ſuch prodigious numbers in the woods round Fort *St. John*, that it would be more properly called Fort *de Marangoins*. The marſhes and the low ſituation of the country, together with the extent of the woods, contribute greatly to their multiplying ſo much; and when the woods are cut down, the water drained, and the country cultivated, they probably will decreaſe in number, and vaniſh at laſt, as they have done in other places.

THE

THE *Rattle Snake*, according to the unanimous accounts of the *French*, is never ſeen in this neghbourhood, nor further north near *Montreal* and *Quebec*; and the mountains which ſurround Fort *St. Frederic*, are the moſt northerly part on this ſide, where they have been ſeen. Of all the ſnakes which are found in *Canada* to the north of theſe mountains, none is poiſonous enough to do any great harm to a man; and all without exception run away when they ſee a man. My remarks on the nature and properties of the rattle-ſnake, I have communicated to the royal *Swediſh* academy of ſciences*, and thither I refer my readers.

July 22d. THIS evening ſome people arrived with horſes from *Prairie*, in order to fetch us. The governor had ſent for them at my deſire, becauſe there were not yet any horſes near Fort *St. John*, the place being only a year old, and the people had not had time to ſettle near it. Thoſe who led the horſes, brought letters to the governor from the governor-general of *Canada*, the Marquis *la Galiſſoniere*, dated at *Quebec* the fifteenth of this month, and from the vice-governor of *Montreal*, the Baron *de Longueil*, dated the twenty-firſt of the ſame month. They mentioned that I had been particularly recommended by the *French* court, and that the governor ſhould ſupply me with every thing I wanted, and forward my journey; and at the ſame time the governor received two little caſks of wine for me, which they thought would

* See their Memoirs for the year 1752.

relieve

relieve me on my journey. At night we drank the kings of *France* and *Sweden*'s health, under a ſalute from the cannon of the fort, and the health of the governor-general and others.

July 23d. THIS morning we ſet out on our journey to *Prairie*, from whence we intended to proceed to *Montreal*; the diſtance of *Prairie* from fort St. *John*, by land, is reckoned ſix *French* miles, and from thence to *Montreal* two *lieues* (leagues) and a half, by the river St. *Lawrence*. At firſt we kept along the ſhore, ſo that we had on our right the *Riviere de St. John* (St. *John*'s river.) This is the name of the mouth of the lake *Champlain*, which falls into the river St. *Lawrence*, and is ſometimes called *Riviere de Champlain (Champlain river.)* After we had travelled about a *French* mile, we turned to the left from the ſhore. The country was always low, woody, and pretty wet, though it was in the midſt of ſummer; ſo that we found it difficult to get forward. But it is to be obſerved that fort St. *John* was only built laſt ſummer, when this road was firſt made, and conſequently it could not yet have acquired a proper degree of ſolidity. Two hundred and ſixty men were three months at work, in making this road; for which they were fed at the expence of the government, and each received thirty ſols every day; and I was told that they would again reſume the work next autumn. The country hereabouts is low and woody, and of courſe the reſidence of millions of gnats and flies, which were very troubleſome to us. After we had gone about three *French* miles, we came

out of the woods, and the ground ſeemed to have been formerly a marſh, which was now dried up. From hence we had a pretty good proſpect on all ſides. On our right hand at a great diſtance we ſaw two high mountains, riſing remarkably above the reſt; and they were not far from fort *Champlain*. We could likewiſe from hence ſee the high mountain which lies near *Montreal*; and our road went on nearly in a ſtraight line. Soon after, we got again upon wet and low grounds, and after that into a wood which conſiſted chiefly of the fir with leaves which have a ſilvery underſide *. We found the ſoil which we paſſed over to day, very fine and rich, and when the woods are cleared and the ground cultivated, it will probably prove very fertile. There are no rocks, and hardly any ſtones near the road.

About four *French* miles from fort St. *John*, the country makes quite another appearance. It is all cultivated, and a continual variety of fields with excellent wheat, peaſe and oats, preſented itſelf to our view; but we ſaw no other kinds of corn. The farms ſtood ſcattered, and each of them was ſurrounded by its corn fields, and meadows; the houſes are built of wood and very ſmall. Inſtead of moſs, which cannot be got here, they employ clay for ſtopping up the crevices in the walls. The roofs are made very much ſloping, and covered with ſtraw. The ſoil is good, flat, and divided by ſeveral rivulets; and only in a few places there are ſome

* *Abies foliis ſubtus argenteis.*

little

little hills. The proſpect is very fine from this part of the road, and as far as I could ſee the country, it was cultivated; all the fields were covered with corn, and they generally uſe ſummer-wheat here. The ground is ſtill very fertile, ſo that there is no occaſion for leaving it to ly as fallow. The foreſts are pretty much cleared, and it is to be feared that there will be a time, when wood will become very ſcarce. Such was the appearance of the country quite up to *Prairie*, and the river St. *Lawrence*, which laſt we had now always in ſight; and, in a word, this country was, in my opinion the fineſt of *North-America*, which I had hitherto ſeen.

About dinner-time we arrived at *Prairie*, which is ſituated on a little riſing-ground near the river St. *Lawrence*. We ſtaid here this day, becauſe I intended to viſit the places in this neighbourhood, before I went on.

Prairie de la Magdelene is a ſmall village on the eaſtern ſide of the river St. *Lawrence*, about two *French* miles and a half from *Montreal*, which place lies N. W. from hence, on the other ſide of the river. All the country round *Prairie* is quite flat, and has hardly any riſings. On all ſides are large corn-fields, meadows, and paſtures. On the weſtern ſide, the river St. *Lawrence* paſſes by, and has here a breadth of a *French* mile and a half, if not more. Moſt of the houſes in *Prairie* are built of timber, with ſloping wooden roofs, and the crevices in the walls are ſtopped up with clay. There are ſome little buildings of ſtone, chiefly of the black lime-ſtone, or of pieces of rock-ſtone, in

which latter the enchaſement of the doors and windows was made of the black lime-ſtone. In the midſt of the village is a pretty church of ſtone, with a ſteeple at the weſt end of it, furniſhed with bells. Before the door is a croſs, together with ladders, tongs, hammers, nails, &c. which are to repreſent all the inſtruments made uſe of at the crucifixion of our Saviour, and perhaps many others beſides them. The village is ſurrounded with paliſades, from four yards to five high, put up formerly as a barrier againſt the incurſions of the *Indians*. Without theſe paliſades are ſeveral little kitchen and pleaſure gardens, but very few fruit-trees in them. The riſing-grounds along the river are very inconſiderable here. In this place there was a prieſt, and a captain, who aſſumed the name of governor. The corn-fields round the place are extenſive, and ſown with ſummer-wheat; but rye, barley and maize are never ſeen. To the ſouth-weſt of this place is a great fall in the river St. *Lawrence*, and the noiſe which it cauſes, may be plainly heard here. When the water in ſpring encreaſes in the river, on account of the ice which then begins to diſſolve, it ſometimes happens to riſe ſo high as to overflow a great part of the fields, and, inſtead of fertilizing them as the river *Nile* fertilizes the *Egyptian* fields by its inundations, it does them much damage, by carrying a number of graſſes and plants on them, the ſeeds of which ſpread the worſt kind of weeds, and ruin the fields. Theſe inundations oblige the people to take their cattle a great way off, becauſe the water covers

covers a great tract of land; but happily it never ſtays on it above two or three days. The cauſe of theſe inundations is generally owing to the ſtopping of ice in ſome part of the river.

THE *Zizania aquatica*, or *Folle Avoine* grows plentiful in the rivulet, or brook, which flows ſomewhat below *Prairie*.

July 24th. THIS morning I went from *Prairie* in a bateau to *Montreal*, upon the river St. *Lawrence*. The river is very rapid, but not very deep near *Prairie*, ſo that the yacht cannot go higher than *Montreal*, except in ſpring with the high water, when they can come up to *Prairie*, but no further. The town of *Montreal* may be ſeen at *Prairie*, and all the way down to it. On our arrival there we found a crowd of people at that gate of the town, where we were to paſs through. They were very deſirous of ſeeing us, becauſe they were informed that ſome *Swedes* were to come to town; people of whom they had heard ſomething, but whom they had never ſeen; and we are aſſured by every body, that we were the firſt *Swedes* that ever came to *Montreal*. As ſoon as we were landed, the governor of the town ſent a captain to me, who deſired I would follow him to the governor's houſe, where he introduced me to him. The Baron *Longueuil* was as yet vice-governor, but he daily expected his promotion from *France*. He received me more civilly and generouſly than I can well deſcribe, and ſhewed me letters from the governor-general at *Quebec*, the Marquis *de la Galiſſoniere*, which mentioned that he had received orders from the *French* court to ſupply me with whatever I ſhould

ſhould want, as I was to travel in this country at the expence of his moſt Chriſtian majeſty. In ſhort governor *Longueuil* loaded me with greater favours than I could expect or even imagine, both during my preſent ſtay and on my return from *Quebec*.

THE difference between the manners and cuſtoms of the *French* in *Montreal* and *Canada*, and thoſe of the *Engliſh* in the *American* colonies, is as great as that between the manners of thoſe two nations in *Europe*. The women in general are handſome here; they are well bred, and virtuous, with an innocent and becoming freedom. They dreſs out very fine on Sundays; and though on the other days they do not take much pains with other parts of their dreſs, yet they are very fond of adorning their heads, the hair of which is always curled and powdered, and ornamented with glittering bodkins and aigrettes. Every day but Sunday, they wear a little neat jacket, and a ſhort petticoat which hardly reaches half the leg, and in this particular they ſeem to imitate the *Indian* women. The heels of their ſhoes are high, and very narrow, and it is ſurprizing how they walk on them. In their knowledge of œconomy, they greatly ſurpaſs the *Engliſh* women in the plantations, who indeed have taken the liberty of throwing all the burthen of houſe-keeping upon their huſbands, and ſit in their chairs all day with folded arms *. The women in *Canada* on

* It ſeems, that for the future, the fair ſex in the *Engliſh* colonies in *North-America*, will no longer deſerve the reproaches Mr. *Kalm*

on the contrary do not ſpare themſelves, eſpecially among the common people, where they are always in the fields, meadows, ſtables, &c. and do not diſlike any work whatſoever. However, they ſeem rather remiſs in regard to the cleaning of the utenſils, and apartments; for ſometimes the floors, both in the town and country, were hardly cleaned once in ſix months, which is a diſagreeable ſight to one who comes from amongſt the *Dutch* and *Engliſh*, where the conſtant ſcouring and ſcrubbing of the floors, is reckoned as important as the exerciſe of religion itſelf. To prevent the thick duſt, which is thus left on the floor, from being noxious to the health, the women wet it ſeveral times a day, which renders it more conſiſtent; repeating the aſperſion as often as the duſt is dry and riſes again. Upon the whole, however, they are not averſe to the taking a part in all the buſineſs of houſekeeping; and I have with pleaſure ſeen the daughters of the better ſort of people, and of the governor himſelf, not too finely dreſſed, and going into kitchens and cellars, to look that every thing be done as it ought.

THE men are extremely civil, and take their hats off to every perſon indifferently whom they meet in the ſtreets. It is cuſtomary to return a viſit the day after you have received one; though one ſhould have ſome ſcores to pay in one day.

Kalm ſtigmatizes them with repeatedly, ſince it is generally reported, that the ladies of late have vied one with another, in providing their families with linen, ſtockings, and home-ſpun cloth of their own making, and that a general ſpirit of induſtry prevails among them at this preſent time. F.

I HAVE been told by ſome among the *French*, who had gone a beaver-hunting with the *Indians* to the northern parts of *Canada*, that the animals whoſe ſkins they endeavour to get, and which are there in great plenty, are beavers, wild-cats, or lynxes, and martens. Theſe animals are the more valued, the farther they are caught to the north, for their ſkins have better hair, and look better than thoſe which are taken more ſouthward, and they became gradually better or worſe, the more they are northward or ſouthward.

White Partridges * is the name which the *French* in *Canada* give to a kind of birds, abounding during winter near *Hudſon's Bay*, and which are undoubtedly our *Ptarmigans*, or *Snowhens (Tetrao Lagopus)*. They are very plentiful at the time of a great froſt, and when a conſiderable quantity of ſnow happens to fall. They are deſcribed to me as having rough white feet, and being white all over, except three or four black feathers in the tail; and they are reckoned very fine eating. From *Edward's* Natural Hiſtory of Birds (pag. 72.) it appears, that the ptarmigans are common about *Hudſon's Bay* †.

Hares are likewiſe ſaid to be plentiful near *Hudſon's Bay*, and they are abundant even in *Canada*, where I have often ſeen, and found them perfectly correſponding with our *Swediſh* hares. In ſummer they have a browniſh grey, and in winter a ſnowy white colour, as with us *.

* Perdrix blanches.

† See *Br. Zool.* Suppl. plate XIII. f. 1. F.

* See a figure of this hare in its white ſtate, in the Suppl. to *Br. Zool.* plate XLVII. f. 1. F.

MECHA-

MECHANICS, such as architecture, cabinet-work, turning, and the like, were not yet so forward here as they ought to be; and the *English*, in that particular, out-do the *French*. The chief cause of this is, that scarce any other people than dismissed soldiers come to settle here, who have not had any opportunity of learning a mechanical trade, but have sometimes accidentally, and through necessity, been obliged to it. There are however some who have a good notion of mechanics, and I saw a person here who made very good clocks and watches, though he had had but very little instruction.

July 27th. THE common house-flies have but been observed in this country about one hundred and fifty years ago, as I have been assured by several persons in this town, and in *Quebec*. All the *Indians* assert the same thing, and are of opinion that the common flies first came over here with the *Europeans* and their ships, which were stranded on this coast. I shall not dispute this; however, I know, that whilst I was in the deserts between *Saratoga* and *Crown Point*, or fort *St. Frederic*, and sat down to rest or to eat, a number of our common flies always came and settled on me. It is therefore dubious, whether they have not been longer in *America* than the term above-mentioned, or whether they have been imported from *Europe*. On the other hand, it may be urged that the flies were left in those deserts at the time when fort *Anne* was yet in a good condition, and when the *English* often travelled there and back again; not to mention that several *Europeans*, both before and

after that time, had travelled through thoſe places, and carried the flies with them, which were attracted by their proviſions.

Wild Cattle are abundant in the ſouthern parts of *Canada*, and have been there ſince times immemorial. They are plentiful in thoſe parts, particularly where the *Illinois Indians* live, which are nearly in the ſame latitude with *Philadelphia*; but further to the north they are ſeldom obſerved. I ſaw the ſkin of a wild ox to-day; it was as big as one of the largeſt ox hides in *Europe*, but had better hair. The hair is dark brown, like that on a brown bear-ſkin. That which is cloſe to the ſkin is as ſoft as wool. This hide was not very thick; and in general they do not reckon them ſo valuable as bear-ſkins in *France*. In winter they are ſpread on the floors, to keep the feet warm. Some of theſe wild cattle, as I am told, have a long and fine wool, as good, if not better, than ſheep wool. They make ſtockings, cloth, gloves, and other pieces of worſted work of it, which look as well as if they were made of the beſt ſheep wool; and the *Indians* employ it for ſeveral uſes. The fleſh equals the beſt beef in goodneſs and fatneſs. Sometimes the hides are thick, and may be made uſe of as cow-hides are in *Europe*. The wild cattle in general are ſaid to be ſtronger and bigger than *European* cattle, and of a brown red colour. Their horns are but ſhort, though very thick cloſe to the head. Theſe, and ſeveral other qualties, which they have in common with, and in greater perfection than the tame cattle, have induced ſome to endeavour to tame them; by

by which means they would obtain the advantages arising from their goodness of hair, and, on account of their great strength, be able to employ them successfully in agriculture. With this view some have repeatedly got young wild calves, and brought them up in *Quebec*, and other places, among the tame cattle; but they commonly died in three or four years time; and though they have seen people every day, yet they have always retained a natural ferocity. They have constantly been very shy, pricked up their ears at the sight of a man, and trembled, or run about; so that the art of taming them has not hitherto been found out. Some have been of opinion, that these cattle cannot well bear the cold; as they never go north of the place I mentioned, though the summers be very hot, even in those northern parts. They think that, when the country about the *Illinois* is better peopled, it will be more easy to tame these cattle, and that afterwards they might more easily be used to the northerly climates *. The *Indians* and *French* in *Canada* make use of the horns of these creature to put gun-powder in.

The peace which was concluded between *France* and *England* was proclaimed this day. The soldiers were under arms; the artillery on the walls was fired off, and some salutes were given by the small fire-arms. All night some fire-works were exhibited, and the whole town

* But by this means they would lose that superiority which in their wild state they have over the tame cattle; as all the progenies of tamed animals degenerate from the excellence of their wild and free ancestors. F.

was illuminated. All the ſtreets were crowded with people till late at night. The governor invited me to ſupper, and to partake of the joy of the inhabitants, There were preſent a number of officers, and perſons of diſtinction; and the feſtival concluded with the greateſt joy.

July 28th. This morning I accompanied the governor, baron *Longueuil*, and his family, to a little iſland called *Magdelene*, which is his own property. It lies in the river *St. Lawrence*, directly oppoſite to the town, on the eaſtern ſide. The governor had here a very neat houſe, though it was not very large, a fine extenſive garden, and a court-yard. The river paſſes between the town and this iſland, and is very rapid. Near the town it is deep enough for yachts; but towards the iſland it grows more ſhallow, ſo that they are obliged to puſh the boats forwards with poles. There was a mill on the iſland, turned by the mere force of the ſtream, without an additional mill-dam.

The ſmooth ſumach, or *Rhus glabra*, grows in great plenty here. I have no where ſeen it ſo tall as in this place, where it had ſometimes the height of eight yards, and a proportionable thickneſs.

Saſſafras is planted here; for it is never found wild in theſe parts, fort *Anne* being the moſt northerly place where I have found it wild. Thoſe ſhrubs which were on the iſland had been planted many years ago; however, they were but ſmall ſhrubs, from two to three feet high, and ſcarce ſo much. The reaſon is, becauſe the ſtem is killed every winter, almoſt down

down to the very root, and muſt produce new ſhoots every ſpring, as I have found from my own obſervations here; and ſo it appeared to be near the forts *Anne*, *Nicholſon*, and *Oſwego*. It will therefore be in vain to attempt to plant ſaſſafras in a very cold climate.

THE red Mulberry-trees (*Morus rubra, Linn.*) are likewiſe planted here. I ſaw four or five of them about five yards high, which the governor told me had been twenty years in this place, and were brought from more ſoutherly parts, ſince they do not grow wild near *Montreal*. The moſt northerly place, where I have found it growing ſpontaneouſly, is about twenty *Engliſh* miles north of *Albany*, as I have been aſſured by the country people who live in that place, and who at the ſame time informed me, that it was very ſcarce in the woods. When I came to *Saratoga*, I enquired whether any of theſe mulberry-trees had been found in that neighbourhood? but every body told me, that they were never ſeen in thoſe parts, but that the beforementioned place, twenty miles above *Albany*, is the moſt northern one where they grow. Thoſe mulberry-trees, which were planted on this iſland, ſucceed very well, though they are placed in a poor ſoil. Their foliage is large and thick, but they did not bear any fruits this year. However, I was informed that they can bear a conſiderable degree of cold.

THE *Water-beech* was planted here in a ſhady place, and was grown to a great height. All

the *French* hereabouts call it *Cotonier* *. It is never found wild near the river *St. Lawrence*; nor north of fort *St. Frederic*, where it is now very ſcarce.

THE red cedar is called *Cedre rouge* by the *French*, and it was likewiſe planted in the governor's garden, whether it had been brought from more ſouthern parts, for it is not to be met with in the foreſts hereabouts. However, it came on very well here.

ABOUT half an hour after ſeven in the evening we left this pleaſant iſland, and an hour after our return the baron *de Longueuil* received two agreeable pieces of news at once. The firſt was, that his ſon, who had been two years in *France*, was returned; and the ſecond, that he had brought with him the royal patents for his father, by which he was appointed governor of *Montreal*, and the country belonging to it.

THEY make uſe of fans here, which are made of the tails of the wild turkeys. As ſoon as the birds are ſhot, their tails are ſpread like fans, and dried, by which means they keep their figure. The ladies and the men of diſtinction in town wear theſe fans, when they walk in the ſtreets, during the intenſeneſs of the heat.

ALL the graſs on the meadows round *Montreal* conſiſts chiefly of a ſpecies of *Meadow-graſs*, or the *Poa capillaris*, *Linn.* †. This is a very ſlen-

* *Cotton-tree.* Mr. *Kalm* mentions before, that this name is given to the *Aſclepias Syriaca.* F.

† Mr. *Kalm* deſcribes it thus: *Poa culmo ſubcompreſſo panicula tenuiſſima, ſpiculis trifloris minimis, floſculis baſi pubeſcentibus.*

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der graſs, which grows very cloſe, and ſucceeds even on the drieſt hills. It is however not rich in foliage; and the ſlender ſtalk is chiefly uſed for hay. We have numerous kinds of graſſes in *Sweden*, which make infinitely finer meadows than this.

July 30th. The *wild Plumb-trees* grow in great abundance on the hills, along the rivulets about the town. They were ſo loaded with fruit, that the boughs were quite bent downwards by the weight. The fruit was not yet ripe, but when it comes to that perfection, it has a red colour and a fine taſte, and preſerves are ſometimes made of it.

Black Currants (Ribes nigrum, Linn.) are plentiful in the ſame places, and its berries were ripe at this time. They are very ſmall, and not by far ſo agreeable as thoſe in *Sweden*.

Parſneps grow in great abundance on the riſing banks of rivers, along the corn-fields, and in other places. This led me to think, that they were original natives of *America*, and not firſt brought over by the *Europeans*. But on my journey into the country of the *Iroquois*, where no *European* ever had a ſettlement, I never once ſaw it, though the ſoil was excellent; and from hence it appears plain enough, that it was tranſported hither from *Europe*, and is not originally an *American* plant; and therefore it is in vain ſought for in any part of this continent, except among the *European* ſettlements.

Auguſt 1ſt. The governor-general of *Canada* commonly reſides at *Quebec*; but he frequently goes to *Montreal*, and generally ſpends the

the winter there. In ſummer they chiefly reſide at *Quebec*, on account of the king's ſhips, which arrive there during that ſeaſon, and bring him letters, which he muſt anſwer; beſides other buſineſs which comes in about that time. During his reſidence in *Montreal* he lives in the caſtle, as it is called, which is a large houſe of ſtone, built by governor-general *Vaudreuil*, and ſtill belonging to his family, who hire it to the king.

They have in *Canada* ſcarce any other but paper-currency. I hardly ever ſaw any coin, except *French* ſols, conſiſting of braſs, with a very ſmall mixture of ſilver; they were quite thin by conſtant circulation, and were valued at a ſol and a half. The bills are not printed, but written. Their origin is as follows. The *French* king having found it very dangerous to ſend money for the pay of the troops, and other purpoſes, over to *Canada*, on account of privateers, ſhipwrecks, and other accidents; he ordered that inſtead of it the intendant, or king's ſteward, at *Quebec*, or the commiſſary at *Montreal*, ſhould write bills for the value of the ſums which are due to the troops, and which they diſtribute to each ſoldier. On theſe bills is inſcribed, that they bear the value of ſuch or ſuch a ſum, till next *October*; and they are ſigned by the intendant, or the commiſſary; and in the interval they bear the value of money. In the month of *October*, at a certain ſtated time, every one brings the bills in his poſſeſſion to the intendant at *Quebec*, or the commiſſary at *Montreal*, who exchanges them for bills of exchange upon *France*, which

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are paid there in lawful money, at the king's exchequer, as ſoon as they are preſented. If the money is not yet wanted, the bill may be kept till next *October*, when it may be exchanged by one of thoſe gentlemen, for a bill upon *France*. The paper money can only be delivered in *October*, and exchanged for bills upon *France*. They are of different values, and ſome do not exceed a *livre*, and perhaps ſome are ſtill leſs. Towards autumn, when the merchants ſhips come in from *France*, the merchants endeavour to get as many bills as they can, and change them for bills upon the *French* treaſury. Theſe bills are partly printed, ſpaces being left for the name, ſum, *&c.* But the firſt bill, or paper currency is all wrote, and is therefore ſubject to be counterfeited, which has ſometimes been done; but the great puniſhments, which have been inflicted upon the authors of theſe forged bills, and which generally are capital, have deterred people from attempting it again; ſo that examples of this kind are very ſcarce at preſent. As there is a great want of ſmall coin here, the buyers, or ſellers, were frequently obliged to ſuffer a ſmall loſs, and could pay no intermediate prices between one livre and two *.

THEY commonly give one hundred and fifty livres a year to a faithful and diligent footman, and to a maid-ſervant of the ſame character one hundred livres. A journeyman to an artiſt

* The *ſol* is the loweſt coin in *Canada*, and is about the value of a penny in the *Engliſh* colonies. A *livre*, or *franc*, (for they are both the ſame) contains twenty ſols; and three livres, or francs, make an *ecu*, or crown.

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gets three or four livres a day, and a common labouring man gets thirty or forty ſols a day. The ſcarcity of labouring people occaſions the wages to be ſo high; for almoſt every body finds it ſo eaſy to ſet up as a farmer in this uncultivated country, where he can live well and at a ſmall expence, that he does not care to ſerve and work for others.

Montreal is the ſecond town in *Canada*, in regard to ſize and wealth; but it is the firſt on account of its fine ſituation, and mild climate. Somewhat above the town, the river *St. Lawrence* divides into ſeveral branches, and by that means forms ſeveral iſlands, and among which the iſle of *Montreal* is the greateſt. It is ten *French* miles long, and near four broad, in its broadeſt part. The town of *Montreal* is built on the eaſtern ſide of the iſland, and cloſe to one of the moſt conſiderable branches of the river *St. Lawrence*; and thus it receives a very pleaſant, and advantageous ſituation. The town has a quadrangular form, or rather it is a rectangular parallelogram, the long and eaſtern ſide of which extends along the great branch of the river. On the other ſide it is ſurrounded with excellent corn-fields, charming meadows, and delightful woods. It has got the name of *Montreal* from a great mountain, about half a mile weſtwards of the town, and lifting its head far above the woods. Monſieur *Cartier*, one of the firſt *Frenchmen* who ſurveyed *Canada* more accurately, called this mountain ſo, on his arrival in this iſland, in the year 1535, when he viſited the mountain, and the *Indian* town *Hoſhelaga*

ſhelaga near it. The prieſts who, according to the Roman catholic way, would call every place in this country after ſome ſaint or other, calling *Montreal*, *Ville Marie*, but they have not been able to make this name general, for it has always kept its firſt name. It is pretty well fortified, and ſurrounded with a high and thick wall. On the eaſt ſide it has the river *St. Lawrence*, and on all the other ſides a deep ditch filled with water, which ſecures the inhabitants againſt all danger from the ſudden incurſions of the enemy's troops. However, it cannot long ſtand a regular ſiege, becauſe it requires a great garriſon, on account of its extent; and becauſe it conſiſts chiefly of wooden houſes. Here are ſeveral churches, of which I ſhall only mention that belonging to the friars of the order of *St. Sulpitius*, that of the Jeſuits, that of the *Franciſcan* friars, that belonging to the nunnery, and that of the hoſpital; of which the firſt is however by far the fineſt, both in regard to its outward and inward ornaments, not only in this place, but in all *Canada*. The prieſts of the ſeminary of *St. Sulpitius* have a fine large houſe, where they live together. The college of the *Franciſcan* friars is likewiſe ſpacious, and has good walls, but it is not ſo magnificent as the former. The college of the Jeſuits is ſmall, but well built. To each of theſe three buildings are annexed fine large gardens, for the amuſement, health, and uſe of the communities to which they belong. Some of the houſes in the town are built of ſtone, but moſt of them are of timber, though very neatly built. Each of the

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better ſort of houſes has a door towards the ſtreet, with a ſeat on each ſide of it, for amuſement and recreation in the morning and evening. The long ſtreets are broad and ſtrait, and divided at right angles by the ſhort ones: ſome are paved, but moſt of them very uneven. The gates of the town are numerous; on the eaſt ſide of the town towards the river are five, two great and three leſſer ones; and on the other ſide are likewiſe ſeveral. The governor-general of *Canada*, when he is at *Montreal*, reſides in the caſtle, which the government hires for that purpoſe of the family of *Vaudreuil*; but the governor of *Montreal* is obliged to buy or hire a houſe in town; though I was told, that the government contributed towards paying the rents.

In the town is a *Nunnery*, and without its walls half a one; for though the laſt was quite ready, however, it had not yet been confirmed by the pope. In the firſt they do not receive every girl that offers herſelf; for their parents muſt pay about five hundred *ecus*, or crowns, for them. Some indeed are admitted for three hundred *ecus*, but they are obliged to ſerve thoſe who pay more than they. No poor girls are taken in.

The king has erected a hoſpital for ſick ſoldiers here. The ſick perſon there is provided with every thing he wants, and the king pays twelve ſols every day for his ſtay, attendance, &c. The ſurgeons are paid by the king. When an officer is brought to this hoſpital, who is fallen ſick in the ſervice of the crown, he receives

ceives victuals and attendance gratis: but if he has got a ſickneſs in the execution of his private concerns, and comes to be cured here, he muſt pay it out of his own purſe. When there is room enough in the hoſpital, they likewiſe take in ſome of the ſick inhabitants of the town and country. They have the medicines, and the attendance of the ſurgeons, gratis, but muſt pay twelve ſols per day for meat, *&c.*

EVERY Friday is a market-day, when the country people come to the town with proviſions, and thoſe who want them muſt ſupply themſelves on that day, becauſe it is the only market-day in the whole week. On that day likewiſe a number of *Indians* come to town, to ſell their goods, and buy others.

THE declination of the magnetic needle was here ten degrees and thirty-eight minutes, weſt. Mr. *Gillion*, one of the prieſts here, who had a particular taſte for mathematicks and aſtronomy, had drawn a meridian in the garden of the ſeminary, which he ſaid he had examined repeatedly by the ſun and ſtars, and found to be very exact. I compared my compaſs with it, taking care that no iron was near it, and found its declination juſt the ſame as that which I have before mentioned.

ACCORDING to Monſieur *Gillion*'s obſervations, the latitude of *Montreal* is forty-five degrees and twenty-ſeven minutes.

MONSIEUR *Pontarion*, another prieſt, had made thermometrical obſervations in *Montreal*, from the beginning of this year 1749. He made uſe of *Reaumur*'s thermometer, which he placed ſometimes in the window half open, and ſometimes

times in one quite open, and accordingly it will ſeldom mark the greateſt degree of cold in the air. However, I ſhall give a ſhort abſtract of his obſervations for the winter months. In *January* the greateſt cold was on the 18th day of the month, when the *Reaumurian* thermometer was twenty-three degrees below the freezing point. The leaſt degree of cold was on the 31ſt of the ſame month, when it was juſt at the freezing point, but moſt of the days of this month it was from twelve to fifteen degrees below the freezing point. In *February* the greateſt cold was on the 19th, and 25th, when the thermometer was fourteen degrees below the freezing point; and the leaſt was on the 3d day of that month, when it roſe eight degrees above the freezing point; but it was generally eleven degrees below it. In *March* the greateſt cold was on the 3d, when it was ten degrees below the freezing point, and on the 22d, 23d, and 24th, it was mildeſt, being fifteen degrees above it: in general it was four degrees below it. In *April* the greateſt degree of cold happened on the 7th, the thermometer being five degrees below the freezing point; the 25th was the mildeſt day, it being twenty degrees above the freezing point; but in general it was twelve degrees above it. Theſe are the contents chiefly of Monſieur *Pontarion's* obſervations during thoſe months; but I found, by the manner he made his obſervations, that the cold had every day been from four to ſix degrees greater, than he had marked it. He had likewiſe marked in his journal, that the ice in the river *St. Lawrence* broke on the 3d of

April

April at *Montreal*, and only on the 20th day of that month at *Quebec*. On the 3d of *May* ſome trees began to flower at *Montreal*, and on the 12th the hoary froſt was ſo great, that the trees were quite covered with it, as with ſnow. The ice in the river cloſe to this town is every winter above a *French* foot thick, and ſometimes it is two of ſuch feet, as I was informed by all whom I conſulted on that head.

SEVERAL of the friars here told me, that the ſummers were remarkably longer in *Canada*, ſince its cultivation, than they uſed to be before; it begins earlier, and ends later. The winters on the other hand are much ſhorter; but the friars were of opinion, that they were as hard as formerly, though they were not of the ſame duration; and likewiſe, that the ſummer at preſent was no hotter than it uſed to be. The coldeſt winds at *Montreal* are thoſe from the north and north-weſt.

Aug. 2d. EARLY this morning we left *Montreal*, and went in a *bateau* on our journey to *Quebec*, in company with the ſecond major of *Montreal*, M. *de Sermonville*. We fell down the river St. *Lawrence*, which was here pretty broad on our left; on the north-weſt ſide was the iſle of *Montreal*, and on the right a number of other iſles, and the ſhore. The iſle of *Montreal* was cloſely inhabited along the river; and it was very plain, and the riſing land near the ſhore conſiſted of pure mould, and was between three or four yards high. The woods were cut down along the river-ſide, for the diſtance of an *Engliſh* mile. The dwelling-houſes were built

of wood, or ſtone, indiſcriminately, and white-waſhed on the outſide. The other buildings, ſuch as barns, ſtables, *&c.* were all of wood. The ground next to the river was turned either into corn-fields, or meadows. Now and then we perceived churches on both ſides of the river, the ſteeples of which were generally on that ſide of the church which looked towards the river, becauſe they are not obliged here to put the ſteeples on the weſt end of the churches. Within ſix *French* miles of *Montreal* we ſaw ſeveral iſlands of different ſizes on the river, and moſt of them were inhabited; and if ſome of them were without houſes on them, they were ſometimes turned into corn-fields, but generally into meadows. We ſaw no mountains, hills, rocks, or ſtones to-day, the country being flat throughout, and conſiſting of pure mould.

ALL the farms in *Canada* ſtand ſeparate from each other, ſo that each farmer has his poſſeſſions entirely diſtinct from thoſe of his neighbour. Each church, it is true, has a little village near it; but that conſiſts chiefly of the parſonage, a ſchool for the boys and girls of the place, and of the houſes of tradeſmen, but rarely of farm-houſes; and if that was the caſe, yet their fields were ſeparated. The farm-houſes hereabouts are generally built all along the riſing banks of the river, either cloſe to the water or at ſome diſtance from it, and about three or four *arpens* from each other. To ſome farms are annexed ſmall orchards: but they are in general without them; however, almoſt every farmer has a kitchen-garden.

I HAVE

I HAVE been told by all thoſe who have made journies to the ſouthern parts of *Canada*, and to the river *Miſſiſippi*, that the woods there abound with peach-trees, which bear excellent fruit, and that the *Indians* of thoſe parts ſay, that thoſe trees have been there ſince time immemorial.

THE farm-houſes are generally built of ſtone, but ſometimes of timber, and have three or four rooms. The windows are ſeldom of glaſs, but moſt frequently of paper. They have iron ſtoves in one of the rooms, and chimnies in the reſt. The roofs are covered with boards. The crevices and chinks are filled up with clay. The other buildings are covered with ſtraw.

THERE are ſeveral *Croſſes* put up by the road ſide, which is parallel to the ſhores of the river. Theſe croſſes are very common in *Canada*, and are put up to excite devotion in the traveller. They are made of wood, five or ſix yards high, and proportionally broad. In that ſide which looks towards the road is a ſquare hole, in which they place an image of our Saviour, the croſs, or of the holy Virgin, with the child in her arms; and before that they put a piece of glaſs, to prevent its being ſpoiled by the weather. Thoſe croſſes, which are not far from churches, are very much adorned, and they put up about them all the inſtruments which they think the *Jews* employed in crucifying our Saviour, ſuch as a hammer, tongs, nails, a flaſk of vinegar, and perhaps many more than were really made uſe of. A figure of the cock, which crowed when *St. Peter* denied our Lord, is commonly put at the top of the croſs.

THE country on both ſides was very delightful to-day, and the fine ſtate of its cultivation added greatly to the beauty of the ſcene. It could really be called a village, beginning at *Montreal*, and ending at *Quebec*, which is a diſtance of more than one hundred and eighty miles; for the farm-houſes are never above five arpens, and ſometimes but three, aſunder, a few places excepted. The proſpect is exceedingly beautiful, when the river goes on for ſome miles together in a ſtrait line, becauſe it then ſhortens the diſtances between the houſes, and makes them form exactly one continued village.

ALL the women in the country, without exception, wear caps of ſome kind or other. Their jackets are ſhort, and ſo are their petticoats, which ſcarce reach down to the middle of their legs; and they have a ſilver croſs hanging down on the breaſt. In general they are very laborious; however, I ſaw ſome, who, like the *Engliſh* women in the colonies, did nothing but prattle all the day. When they have any thing to do within doors, they (eſpecially the girls) commonly ſing ſongs, in which the words *Amour* and *Cœur* are very frequent. In the country it is uſual, that when the huſband receives a viſit from perſons of rank, and dines with them, his wife ſtands behind and ſerves him; but in the towns, the ladies are more diſtinguiſhed, and would willingly aſſume an equal, if not a ſuperior, power to their huſbands. When they go out of doors they wear long cloaks, which cover all their other clothes, and are either grey, brown, or blue. The men

ſome-

ſometimes make uſe of them, when they are obliged to go in the rain. The women have the advantage of being in a *deſhabille* under theſe cloaks, without any body's perceiving it.

We ſometimes ſaw wind-mills near the farms. They were generally built of ſtone, with a roof of boards, which, together with its flyers, could be turned to the wind occaſionally.

The breadth of the river was not always equal to-day; in the narroweſt place, it was about a quarter of an *Engliſh* mile broad; in other parts it was near two *Engliſh* miles. The ſhore was ſometimes high and ſteep, and ſometimes low, or ſloping.

At three o'clock this afternoon we paſſed by the river, which falls into the river St. *Lawrence*, and comes from lake *Champlain*, in the middle of which latter is a large iſland. The yachts which go between *Montreal* and *Quebec*, go on the ſouth-eaſt ſide of this iſland, becauſe it is deeper there; but the boats prefer the north-weſt ſide, becauſe it is nearer, and yet deep enough for them. Beſides this iſland there are ſeveral more hereabouts, which are all inhabited. Somewhat further, the country on both ſides the river is uninhabited, till we come to the *Lac St. Pierre*; becauſe it is ſo low, as to be quite overflowed at certain times of the year. To make up for this deficiency, the country, I am told, is as thickly inhabited further from the river, as we found it along the banks of the river.

Lac St. Pierre is a part of the river St. *Lawrence*, which is ſo broad that we could hardly

ſee any thing but ſky and water before us, and I was every where told, that it is ſeven *French* miles long, and three broad. From the middle of this lake as it is called, you ſee a large high country in the weſt, which appears above the woods. In the lake are many places covered with a kind of ruſh, or *Scirpus paluſtris*, *Linn.* There are no houſes in ſight on either ſide of the lake, becauſe the land is rather too low there; and in ſpring the water riſes ſo high, that they may go with boats between the trees. However, at ſome diſtance from the ſhores, where the ground is higher, the farms are cloſe together. We ſaw no iſlands in the lake this afternoon, but the next day we met with ſome.

LATE in the evening we left lake St. *Pierre*, and rowed up a little river called *Riviere de Loup*, in order to come to a houſe where we might paſs the night. Having rowed about an *Engliſh* mile, we found the country inhabited on both ſides of the river. Its ſhores are high; but the country in general is flat. We paſſed the night in a farm-houſe. The territory of *Montreal* extends to this place; but here begins the juriſdiction of the governor of *Trois Rivieres*, to which place they reckon eight *French* miles from hence.

Aug. 3d. AT five o'clock in the morning we ſet out again, and firſt rowed down the little river till we came into the lake St. *Pierre*, which we went downwards. After we had gone a good way, we perceived a high chain of mountains in the north-weſt, which were very much elevated

elevated above the low, flat country. The north-weſt ſhore of lake St. *Pierre* was now in general very cloſely inhabited; but on the ſouth-eaſt ſide we ſaw no houſes, and only a country covered with woods, which is ſometimes ſaid to be under water, but behind which there are, as I am told, a great number of farms. Towards the end of the lake, the river went into its proper bounds again, being not above a mile and a half broad, and afterwards it grows ſtill narrower. From the end of Lake St. *Pierre* to *Trois Rivieres*, they reckon three *French* miles, and about eleven o'clock in the morning we arrived at the latter place, where we attended divine ſervice.

Trois Rivieres is a little market town, which had the appearance of a large village; it is however reckoned among the three great towns of *Canada*, which are *Quebec*, *Montreal*, and *Trois Rivieres*. It is ſaid to ly in the middle between the two firſt, and thirty *French* miles diſtant from each. The town is built on the north ſide of the river St. *Lowrence*, on a flat, elevated ſand, and its ſituation is very pleaſant. On one ſide the river paſſes by, which is here an *Engliſh* mile and a half broad. On the other ſide, are fine corn-fields, though the ſoil is very much mixed with ſand. In the town are two churches of ſtone, a nunnery, and a houſe for the friars of the order of St. *Francis*. This town is likewiſe the ſeat of the third governo in *Canada*, whoſe houſe is likewiſe of ſtone. Moſt of the other houſes are of timber, a ſingle ſtory high, tolerably well built, and ſtand very

much aſunder; and the ſtreets are crooked. The ſhore here conſiſts of ſand, and the riſing grounds along it are pretty high. When the wind is very violent here, it raiſes the ſand, and blows it about the ſtreets, making it very troubleſome to walk in them. The nuns, which are about twenty-two in number, are reckoned very ingenious in all kinds of needle-work. This town formerly flouriſhed more than any other in *Canada*, for the *Indians* brought their goods to it from all ſides; but ſince that time they go to *Montreal* and *Quebec*, and to the *Engliſh*, on account of their wars with the *Iroqueſe*, or Five Nations, and for ſeveral other reaſons, ſo that this town is at preſent very much reduced by it. Its preſent inhabitants live chiefly by agriculture, though the neighbouring iron-works may ſerve in ſome meaſure to ſupport them. About an *Engliſh* mile below the town, a great river falls into the river St. *Lawrence*, but firſt divides into three branches, ſo that it appears as if three rivers diſembogued themſelves there. This has given occaſion to call the river and this town, *Trois Rivieres (the Three Rivers.)*

THE tide goes about a *French* mile above *Trois Rivieres*, though it is ſo trifling as to be hardly obſervable. But about the equinoxes, and at the new moons and full moons in ſpring and autumn, the difference between the higheſt and loweſt water is two feet. Accordingly the tide in this river goes very far up, for from the above-mentioned place to the ſea

ſea they reckon about a hundred and fifty *French* miles.

WHILST my company were reſting, I went on horſeback to view the iron-work. The country which I paſſed through was pretty high, ſandy, and generally flat. I ſaw neither ſtones nor mountains here.

THE *iron-work*, which is the only one in this country, lies three miles to the weſt of *Trois Rivieres*. Here are two great forges, beſides two leſſer ones to each of the great ones, and under the ſame roof with them. The bellows were made of wood, and every thing elſe, as it is in *Swediſh* forges. The melting ovens ſtand cloſe to the forges, and are the ſame as ours. The ore is got two *French* miles and a half from the iron works, and is carried thither on ſledges. It is a kind of moor ore *, which lies in veins, within ſix inches or a foot from the ſurface of the ground. Each vein is from ſix to eighteen inches deep, and below it is a white ſand. The veins are ſurrounded with this ſand on both ſides, and covered at the top with a thin mould. The ore is pretty rich and lies in looſe lumps in the veins, of the ſize of two fiſts, though there are a few which are near eighteen inches thick. Theſe lumps are full of holes, which are filled with ochre. The ore is ſo ſoft that it may be cruſhed betwixt the fingers. They make uſe of a grey lime-ſtone, which is broke

* *Tophus Tubalcaini, Linn. Syſt. Nat.* III. p. 187. n. 5. *Minera ferri ſubaquoſa nigro cæruleſcens. Wall. Mineral.* p. 263. *Gem.* Ed. p. 340. n. 3. *Iron ochres* in the ſhape of cruſts, are ſometimes cavernous, as the *Bruſh ore. Forſter's Mineral.* p. 48.

in

in the neighbourhood, for promoting the fuſibility of the ore; to that purpoſe they likewiſe employ a clay marle, which is found near this place. Charcoals are to be had in great abundance here, becauſe all the country round this place is covered with woods, which have never been ſtirred. The charcoals from ever-green trees, that is, from the fir kind, are beſt for the forge, but thoſe of deciduous trees are beſt for the ſmelting oven. The iron which is here made, was to me deſcribed as ſoft, pliable, and tough, and is ſaid to have the quality of not being attacked by ruſt ſo eaſily as other iron; and in this point there appears a great difference between the *Spaniſh* iron and this in ſhip-building. This iron-work was firſt founded in 1737, by private perſons, who afterwards ceded it to the king; they caſt cannon and mortars here, of different ſizes, iron ſtoves which are in uſe all over *Canada*, kettles, &c. not to mention the bars which are made here. They have likewiſe tried to make ſteel here, but cannot bring it to any great perfection, becauſe they are unacquainted with the beſt manner of preparing it. Here are many officers and overſeers, who have very good houſes, built on purpoſe for them. It is agreed on all hands, that the revenues of the iron-work do not pay the expences which the king muſt every year be at in maintaining it. They lay the fault on the bad ſtate of population, and ſay that the few inhabitants in the country have enough to do with agriculture, and that it therefore coſts great trouble and large ſums, to get a ſufficient number of workmen.

But

But however plauſible this may appear, yet it is ſurpriſing that the king ſhould be a loſer in carrying on this work; for the ore is eaſily broken, very near the iron-work, and very fuſible. The iron is good, and can be very conveniently diſperſed over the country. This is moreover the only iron-work in the country, from which every body muſt ſupply himſelf with iron tools, and what other iron he wants. But the officers and ſervants belonging to the iron-work, appear to be in very affluent circumſtances. A river runs down from the iron-work, into the river St. *Lawrence*, by which all the iron can be ſent in boats throughout the country at a low rate. In the evening I returned again to *Trois Rivieres*.

Aug. 4th. AT the dawn of day we left this place and went on towards *Quebec*. We found the land on the north ſide of the river ſomewhat elevated, ſandy, and cloſely inhabited along the water ſide. The ſouth-eaſt ſhore, we were told, is equally well inhabited; but the woods along that ſhore prevented our ſeeing the houſes, which are built further up in the country, the land cloſe to the river being ſo low as to be ſubject to annual inundations. Near *Trois Rivieres*, the river grows ſomewhat narrow; but it enlarges again, as ſoon as you come a little below that place, and has the breadth of above two *Engliſh* miles.

As we went on, we ſaw ſeveral churches of ſtone, and often very well built ones. The ſhores of the river are cloſely inhabited for about three quarters of an *Engliſh* mile up the country;

country; but beyond that the woods and the wilderneſs encreaſe. All the rivulets falling into the river *St. Lawrence* are likewiſe well inhabited on both ſides. I obſerved throughout *Canada*, that the cultivated lands ly only along the river *St. Lawrence*, and the other rivers in the country, the environs of towns excepted, round which the country is all cultivated and inhabited within the diſtance of twelve or eighteen *Engliſh* miles. The great iſlands in the river are likewiſe inhabited.

THE ſhores of the river now became higher, more oblique and ſteep, however they conſiſted chiefly of earth. Now and then ſome rivers, or great brooks, fall into the river *St. Lawrence*, among which one of the moſt conſiderable is the *Riviere Puante*, which unites to the ſouth-eaſt ſide with the river *St. Lawrence*, about two *French* miles below *Trois Rivieres*, and has on its banks, a little way from its mouth, a town called *Becancourt*, which is wholly inhabited by *Abenakee Indians*, who have been converted to the *Roman catholic* religion, and have *Jeſuits* among them. At a great diſtance, on the north-weſt ſide of the river, we ſaw a chain of very high mountains, running from north to ſouth, elevated above the reſt of the country, which is quite flat here without any remarkable hills.

HERE were ſeveral lime-kilns along the river; and the lime-ſtone employed in them is broke in the neighbouring high grounds. It is compact and grey, and the lime it yields is pretty white.

THE

THE fields here are generally ſown with wheat, oats, maize, and peaſe. Gourds and water-melons are planted in abundance near the farms.

A Humming bird *(Trochillus Colubris)* flew among the buſhes, in a place where we landed to-day. The *French* call it *Oiſeau mouche*, and ſay it is pretty common in *Canada*; and I have ſeen it ſince ſeveral times at *Quebec*.

ABOUT five o'clock in the afternoon we were obliged to take our night's lodgings on ſhore, the wind blowing very ſtrong againſt us, and being attended with rain. I found that the nearer we came to *Quebec*, the more open and free from woods was the country. The place where we paſſed the night is diſtant from *Quebec* twelve *French* miles.

THEY have a very peculiar method of catching fiſh near the ſhore here. They place hedges along the ſhore, made of twiſted oziers, ſo cloſe that no fiſh can get through them, and from one foot to a yard high, according to the different depth of the water. For this purpoſe they chooſe ſuch places where the water runs off during the ebb, and leaves the hedges quite dry. Within this incloſure they place ſeveral wheels, or fiſh-traps, in the form of cylinders, but broader below. They are placed upright, and are about a yard high, and two feet and a half wide: on one ſide near the bottom is an entrance for the fiſhes, made of twigs, and ſometimes of yarn made into a net. Oppoſite to this entrance, on the other ſide of the wheel, looking towards the lower part of the river, is another

entrance, like the firſt, and leading to a box of boards about four feet long, two deep, and two broad. Near each of the wheels is a hedge, leading obliquely to the long hedge, and making an acute angle with it. This latter hedge is made in order to lead the fiſh into the trap, and it is placed on that end of the long hedge which looks towards the upper part of the river; now when the tide comes up the river, the fiſh, and chiefly the eels, go up with it along the river ſide; when the water begins to ebb, the fiſh likewiſe go down the river, and meeting with the hedges, they ſwim along them, till they come through the wheels into the boxes of boards, at the top of which there is a hole with a cover, through which the fiſh could be taken out. This apparatus is chiefly made on account of the eels. In ſome places hereabouts they place nets inſtead of the hedges of twigs.

The ſhores of the river now conſiſted no more of pure earth; but of a ſpecies of ſlate. They are very ſteep, and nearly perpendicular here, and the ſlates of which they conſiſt are black, with a brown caſt; and diviſible into thin ſhivers, no thicker than the back of a knife. Theſe ſlates moulder as ſoon as they are expoſed to the open air, and the ſhore is covered with grains of ſmall ſand, which are nothing but particles of ſuch mouldered ſlates. Some of the ſtrata run horizontal, others obliquely, dipping to the ſouth, and riſing to the north, and ſometimes the contrary way. Sometimes they form bendings like large ſemicircles: ſometimes a perpendicular line cuts off the ſtrata, to the depth

of

of two feet; and the ſlates on both ſides of the line form a perpendicular and ſmooth wall. In ſome places hereabouts, they find amongſt the ſlates a ſtratum about four inches thick of a grey, compact, but pretty ſoft lime-ſtone, of which the *Indians* for many centuries have made, and the *French* at preſent ſtill make, tobacco-pipes *.

Auguſt 5th. THIS morning we continued our journey by rowing, the contrary wind hindering us from ſailing. The appearance of the ſhores was the ſame as yeſterday; they were high, pretty ſteep, and quite perpendicular; and conſiſted of the black ſlate before deſcribed. The country at the top was a plain without eminences, and cloſely inhabited along the river, for about the ſpace of an *Engliſh* mile and a half inland. Here are no iſlands in this part of the river, but ſeveral ſtony places, perceptible at low water only, which have ſeveral times proved fatal to travellers. The breadth of the river varies; in ſome parts it was a little more than three quarters of a mile, in others half a mile, and in ſome above two miles. The inhabitants made uſe of the ſame method of catching eels along the ſhores here, as that which I have juſt before-mentioned. In many places they make uſe of nets made of oſiers inſtead of the hedge.

* This lime-ſtone ſeems to be a marle, or rather a kind of ſtone-marle: for there is a whitiſh kind of it in the *Krim Tartary*, and near *Stiva* or *Thebes*, in *Greece*, which is employed by the *Turks* and *Tartars* for making heads of pipes, and that from the firſt place is called *Kiffekil*, and in the latter, *Sea-Scum*: it may be very eaſily cut, but grows harder in time. F.

Bugs (*Cimex lectularius*) abound in *Canada*; and I met with them in every place where I lodged, both in the towns and country, and the people know of no other remedy for them than patience.

The Crickets (*Gryllus domeſticus*) are alſo abundant in *Canada*, eſpecially in the country, where theſe diſagreeable gueſts lodge in the chimnies; nor are they uncommon in the towns. They ſtay here both ſummer and winter, and frequently cut clothes in pieces for paſtime.

The Cockroaches (*Blatta orientalis*) have never been found in the houſes here.

The ſhores of the river grow more ſloping as you come nearer to *Quebec*. To the northward appears a high ridge of mountains. About two *French* miles and a half from *Quebec* the river becomes very narrow, the ſhores being within the reach of a muſket-ſhot from each other. The country on both ſides was ſloping, hilly, covered with trees, and had many ſmall rocks; the ſhore was ſtony. About four o'clock in the afternoon we happily arrived at *Quebec*. The city does not appear till one is cloſe to it, the proſpect being intercepted by a high mountain on the ſouth ſide. However, a part of the fortifications appear at a good diſtance, being ſituate on the ſame mountain. As ſoon as the ſoldiers, who were with us, ſaw *Quebec*, they called out, that all thoſe who had never been there before ſhould be ducked, if they did not pay ſomething to releaſe themſelves. This cuſtom even the governor-general of *Canada* is obliged

to

to ſubmit to, on his firſt journey to *Montreal*. We did not care when we came in ſight of this town to be exempted from this old cuſtom, which is very advantageous to the rowers, as it enables them to ſpend a merry evening on their arrival at *Quebec*, after their troubleſome labour.

IMMEDIATELY after my arrival, the officer who had accompanied me from *Montreal*, led me to the palace of the then vice-governor-general of *Canada*, the marquis *la Galiſſonniere*, a nobleman of uncommon qualities, who behaved towards me with extraordinary goodneſs, during the time he ſtaid in this country. He had already ordered ſome apartments to be got ready for me, and took care to provide we with every thing I wanted; beſides honouring me ſo far to invite me to his table, almoſt every day I was in town.

Auguſt 6th. *Quebec*, the chief city in *Canada*, lies on the weſtern ſhore of the river *St. Lawrence*, cloſe to the water's edge, on a neck of land, bounded by that river on the eaſt ſide, and by the river *St. Charles* on the north ſide; the mountain, on which the town is built, riſes ſtill higher on the ſouth ſide, and behind it begin great paſtures; and the ſame mountain likewiſe extends a good way weſtward. The city is diſtinguiſhed into the lower and the upper*. The lower lies on the river, eaſtward of the upper. The neck of land, I mentioned before, was formed by the dirt and filth, which had from time to time been accumulated there, and

* *La haute Ville & la baſſe Ville.*

by a rock which lay that way, not by any gradual diminution of the water. The upper city lies above the other, on a high hill, and takes up five or ſix times the ſpace of the lower, though it is not quite ſo populous. The mountain, on which the upper city is ſituated, reaches above the houſes of the lower city. Notwithſtanding the latter are three or four ſtories high, and the view, from the palace, of the lower city (part of which is immediately under it) is enough to cauſe a ſwimming of the head. There is only one eaſy way of getting to the upper city, and there part of the mountain has been blown up. This road is very ſteep, notwithſtanding it is made winding and ſerpentine. However, they go up and down it in carriages, and with waggons. All the other roads up the mountain are ſo ſteep, that it is very difficult to climb to the top of them. Moſt of the merchants live in the lower city, where the houſes are built very cloſe together. The ſtreets in it are narrow, very rugged, and almoſt always wet. There is likewiſe a church, and a ſmall market-place. The upper city is inhabited by people of quality, by ſeveral perſons belonging to the different offices, by tradeſmen, and others. In this part are the chief buildings of the town, among which the following are worthy particular notice.

I. The *Palace* is ſituated on the weſt or ſteepeſt ſide of the mountain, juſt above the lower city. It is not properly a palace, but a large building of ſtone, two ſtories high, extending north and ſouth. On the weſt ſide of it is a court-

a court-yard, ſurrounded partly with a wall, and partly with houſes. On the eaſt ſide, or towards the river, is a gallery as long as the whole building, and about two fathom broad, paved with ſmooth flags, and included on the outſides by iron rails, from whence the city and the river exhibit a charming proſpect. This gallery ſerves as a very agreeable walk after dinner, and thoſe who come to ſpeak with the governor-general wait here till he is at leiſure. The palace is the lodging of the governor-general of *Canada*, and a number of ſoldiers mount the guard before it, both at the gate and in the court-yard; and when the governor, or the biſhop, comes in or goes out, they muſt all appear in arms, and beat the drum. The governor-general has his own chapel where he hears prayers; however, he often goes to maſs at the church of the *Recolets**, which is very near the palace.

II. The *Churches* in this town are ſeven or eight in number, and all built of ſtone.

1. The *Cathedral* church is on the right hand, coming from the lower to the upper city, ſomewhat beyond the biſhop's houſe. The people were at preſent employed in ornamenting it. On its weſt ſide is a round ſteeple, with two diviſions, in the lower of which are ſome bells. The pulpit, and ſome other parts within the church, are gilt. The ſeats are very fine.

2. The *Jeſuits* church is built in the form of a croſs, and has a round ſteeple. This is the only church that has a clock, and I ſhall mention it more particularly below.

* A kind of *Franciſcan* friars, called *Ordo Sti. Franciſci ſtricti-oris obſervantiæ.*

3. The *Recolets* church is oppoſite the gate of the palace, on the weſt ſide, looks well, and has a pretty high pointed ſteeple, with a diviſion below for the bells.

4. The church of the *Urſulines* has a round ſpire.

5. The church of the hoſpital.

6. The biſhop's chapel.

7. The church in the lower city was built in 1690, after the town had been delivered from the *Engliſh*, and is called *Notre Dame de la Victoire*. It has a ſmall ſteeple in the middle of the roof, ſquare at the bottom, and round at the top.

8. The little chapel of the governor-general, may likewiſe be ranked amongſt theſe churches.

III. The biſhop's houſe is the firſt, on the right hand, coming from the lower to the upper town. It is a fine large building, ſurrounded by an extenſive court-yard and kitchen-garden on one ſide, and by a wall on the other.

IV. The college of the Jeſuits, which I will deſcribe more particularly. It has a much more noble appearance, in regard to its ſize and architecture, than the palace itſelf, and would be proper for a palace if it had a more advantageous ſituation. It is about four times as large as the palace, and is the fineſt building in town. It ſtands on the north ſide of a market, on the ſouth ſide of which is the cathedral.

V. The houſe of the Recolets lies to the weſt, near the palace and directly over againſt it, and conſiſts of a ſpacious building, with a large orchard, and kitchen-garden. The houſe is

two

two ſtories high. In each ſtory is a narrow gallery with rooms and halls on one, or both ſides.

VI. THE *Hôtel de Dieu*, where the ſick are taken care of, ſhall be deſcribed in the ſequel. The nuns, that ſerve the ſick, are of the *Auguſtine* order.

VII. THE houſe of the clergy * is a large building, on the north-eaſt ſide of the cathedral. Here is on one ſide a ſpacious court, and on the other towards the river, a great orchard, and kitchen-garden. Of all the buildings in the town none has ſo fine a proſpect as that in the garden belonging to this houſe, which lies on the high ſhore, and looks a good way down the river. The Jeſuits on the other hand have the worſt, and hardly any proſpect at all from their college, nor have the Recolets any fine views from their houſe. In this building all the clergy of *Quebec* lodge with their ſuperior. They have large pieces of land in ſeveral parts of *Canada*, preſented to them by the government, from which they derive a very plentiful income.

VIII. THE convent of the *Urſuline* nuns ſhall be mentioned in the ſequel.

THESE are all the chief public buildings in the town, but to the north-weſt, juſt before the town, is

IX. THE houſe of the intendant, a public building, whoſe ſize makes it fit for a palace. It is covered with tin, and ſtands in a ſecond lower town, ſituated ſouthward upon the river

* *Le Seminaire.*

St. Charles. It has a large and fine garden on its north ſide. In this houſe all the deliberations concerning this province, are held; and the gentlemen who have the management of the police and the civil power meet here, and the intendant generally preſides. In affairs of great conſequence the governor-general is likewiſe here. On one ſide of this houſe is the ſtore-houſe of the crown, and on the other the priſon.

Most of the houſes in *Quebec* are built of ſtone, and in the upper city they are generally but one ſtory high, the public buildings excepted. I ſaw a few wooden houſes in the town, but they muſt not be rebuilt when decayed. The houſes and churches in the city are not built of bricks, but the black lime-ſlates of which the mountain conſiſts, whereon *Quebec* ſtands. When theſe lime-ſlates are broke at a good depth in the mountain, they look very compact at firſt, and appear to have no ſhivers, or *lamellæ*, at all; but after being expoſed a while to the air, they ſeparate into thin leaves. Theſe ſlates are ſoft, and eaſily cut; and the city-walls, together with the garden-walls, conſiſt chiefly of them. The roofs of the public buildings are covered with common ſlates, which are brought from *France*, becauſe there are none in *Canada*.

The ſlated roofs have for ſome years withſtood the changes of air and weather, without ſuffering any damage. The private houſes have roofs of boards, which are laid parallel to the ſpars, and ſometimes to the eaves, or ſometimes obliquely.

obliquely. The corners of houſes are made of a grey ſmall-grained lime-ſtone, which has a ſtrong ſmell, like the *ſtink-ſtone* *, and the windows are generally enchaſed with it. This lime-ſtone is more uſeful in thoſe places than the lime-ſlates, which always ſhiver in the air. The out-ſides of the houſes are generally white-waſhed. The windows are placed on the inner ſide of the walls; for they have ſometimes double windows in winter. The middle roof has two, or at moſt three ſpars, covered with boards only. The rooms are warmed in winter by ſmall iron ſtoves, which are removed in ſummer. The ſtoors are very dirty in every houſe, and have all the appearance of being cleaned but once every year.

THE *Powder magazine* ſtands on the ſummit of the mountain, on which the city is built, and ſouthward of the palace.

THE ſtreets in the upper city have a ſufficient breadth, but are very rugged, on account of the rock on which it lies; and this renders them very diſagreeable and troubleſome, both to foot-paſſengers and carriages. The black lime-ſlates baſſet out and project every where into ſharp angles, which cut the ſhoes in pieces. The ſtreets croſs each other at all angles, and are very crooked.

THE many great orchards and kitchen-gardens, near the houſe of the Jeſuits, and other public and private buildings, make the town

* *Nitrum ſuillum. Lynn.* Syſt. III. p. 86. Lapis ſuillus priſmaticus Waller. Mineral. p. 59. a. 1. *Stink-ſtone, Forſter's* Introd. to Mineralogy. p. 40.

appear very large, though the number of houſes it contains is not very conſiderable. Its extent from ſouth to north is ſaid to be about ſix hundred toiſes, and from the ſhore of the river along the lower town, to the weſtern wall between three hundred and fifty and four hundred toiſes. It muſt be here obſerved, that this ſpace is not yet wholly inhabited; for on the weſt and ſouth ſide, along the town walls, are large pieces of land without any buildings on them, and deſtined to be built upon in future times, when the number of inhabitants will be encreaſed in *Quebec*.

The biſhop, whoſe ſee is in the city, is the only biſhop in *Canada*. His dioceſe extends to *Louiſiana*, on the *Mexican* gulf ſouthward, and to the ſouth-ſeas weſtward.

No biſhop, the pope excepted, ever had a more extenſive dioceſe. But his ſpiritual flock is very inconſiderable at ſome diſtance from *Quebec*, and his ſheep are often many hundred miles diſtant from each other.

Quebec is the only ſea-port and trading town in all *Canada*, and from thence all the produce of the country is exported. The port is below the town in the river, which is there about a quarter of a *French* mile broad, twenty-five fathoms deep, and its ground is very good for anchoring. The ſhips are ſecured from all ſtorms in this port; however, the north-eaſt wind is the worſt, becauſe it can act more powerfully. When I arrived here, I reckoned thirteen great and ſmall veſſels, and they expected more to come in. But it is to be remarked,

marked, that no other ſhips than *French* ones can come into the port, though they may come from any place in *France*, and likewiſe from the *French* poſſeſſions in the *Weſt-Indies*. All the foreign goods, which are found in *Montreal*, and other parts of *Canada*, muſt be taken from hence. The *French* merchants from *Montreal*, on their ſide, after making a ſix months ſtay among ſeveral *Indian* nations, in order to purchaſe ſkins of beaſts and furrs, return about the end of *Auguſt*, and go down to *Quebec* in *September* or *October*, in order to ſell their goods there. The privilege of ſelling the imported goods, it is ſaid, has vaſtly enriched the merchants of *Quebec*; but this is contradicted by others, who allow that there a few in affluent circumſtances, but that the generality poſſeſs no more than is abſolutely neceſſary for their bare ſubſiſtence, and that ſeveral are very much in debt, which they ſay is owing to their luxury and vanity. The merchants dreſs very finely, and are extravagant in their repaſts; and their ladies are every day in full dreſs, and as much adorned as if they were to go to court.

The town is ſurrounded on almoſt all ſides by a high wall, and eſpecially towards the land. It was not quite completed when I was there, and they were very buſy in finiſhing it. It is built of the above-mentioned black lime-ſlate, and of a dark-grey ſand-ſtone. For the corners of the gates they have employed a grey lime-ſtone. They have not made any walls towards the water ſide, but nature ſeems to have worked for them, by placing a rock there which it is impoſſible

impoſſible to aſcend. All the riſing land thereabouts is likewiſe ſo well planted with cannon, that it ſeems impoſſible for an enemy's ſhips or boats to come to the town without running into imminent danger of being ſunk. On the land ſide the town is likewiſe guarded by high mountains; ſo that nature and art have combined to fortify it.

Quebec was founded by its former governor, *Samuel de Champlain*, in the year 1608. We are informed by hiſtory, that its riſe was very ſlow. In 1629, towards the end of *July*, it was taken by two *Engliſhmen*, *Lewis* and *Thomas Kerk*, by capitulation, and ſurrendered to them by the above-mentioned *de Champlain*. At that time, *Canada* and *Quebec* were wholly deſtitute of proviſions; ſo that they looked upon the *Engliſh* more as their deliverers than their enemies. The above-mentioned *Kerks*, were the brothers of the *Engliſh* admiral *David Kerk*, who lay with his fleet ſomewhat lower in the river. In the year 1632, the *French* got the town of *Quebec*, and all *Canada*, returned to them by the peace. It is remarkable, that the *French* were doubtful whether they ſhould reclaim *Canada* from the *Engliſh*, or leave it to them. The greater part were of opinion, that to keep it would be of no advantage to *France*, becauſe the country was cold; and the expences far exceeded its produce; and becauſe *France* could not people ſo extenſive a country, without weakening herſelf, as *Spain* had done before; that it was better to keep the people in *France*, and employ them in all ſorts of manufactures, which

which would oblige the other *European* powers who have colonies in *America* to bring their raw goods to *French* ports, and take *French* manufactures in return. Thoſe on the other hand who had more extenſive views, knew that the climate was not ſo rough as it had been repreſented. They likewiſe believed that that which cauſed the expences was a fault of the company, becauſe they did not manage the country well. They would not have many people ſent over at once, but little by little, ſo that *France* might not feel it. They hoped that this colony would in future times make *France* powerful, for its inhabitants would become more and more acquainted with the herring, whale, and cod fiſheries, and likewiſe with the taking of ſeals; and that by this means *Canada* would become a ſchool for training up ſeamen. They further mentioned the ſeveral ſorts of furrs, the converſion of the *Indians*, the ſhip-building, aud the various uſes of the extenſive woods. And laſtly, that it would be a conſiderable advantage to *France*, even though they ſhould reap no other benefit, to hinder by this means the progreſs of the *Engliſh* in *America*, and of their encreaſing power, which would otherwiſe become inſupportable to *France*; not to mention ſeveral other reaſons. Time has ſhewn that theſe reaſons were the reſult of mature judgment, and that they laid the foundation of the riſe of *France*. It were to be wiſhed that we had been of the ſame opinion in *Sweden*, at a time when we were actually in poſſeſſion of *New Sweden*, the fineſt and beſt province in all *North America*, or when we

we were yet in a condition to get the poſſeſſion of it. Wiſdom and foreſight does not only look upon the preſent times, but even extends its views to futurity.

In the year 1663, at the beginning of *February*, the great earthquake was felt in *Quebec* and a great part of *Canada*, and there are ſtill ſome veſtiges of its effects at that time; however, no lives were loſt.

On the 16th of *October* 1690, *Quebec* was beſieged by the *Engliſh* general *William Phips*, who was obliged to retire a few days after, with great loſs. The *Engliſh* have tried ſeveral times to repair their loſſes, but the river St. *Lawrence* has always been a very good defence for this country. An enemy, and one that is not acquainted with this river, cannot go upwards in it, without being ruined; for in the neighbourhood of *Quebec*, it abounds with hidden rocks, and has ſtrong currents in ſome places, which oblige the ſhips to make many windings.

The name of *Quebec* it is ſaid is derived from a *Norman* word, on account of its ſituation on a neck or point of land. For when one comes up in the river by *l'Iſle d'Orleans*, that part of the river *St. Lawrence* does not come in ſight, which lies above the town, and it appears as if the river *St. Charles*, which lies juſt before, was a continuation of the St. *Lawrence*. But on advancing further the true courſe of the river comes within ſight, and has at firſt a great ſimilarity to the mouth of a river or a great bay. This has given occaſion to a ſailor, who ſaw it unexpectedly, to cry out in his provincial dialect,

Que

Que bec *, that is, *what a point of land!* and from hence it is thought the city obtained its name. Others derive it from the *Algonkin* word *Quebego* or *Quebec*, ſignifying that which grows narrow, becauſe the river becomes narrower as it comes nearer to the town.

THE river *St. Lawrence* is exactly a quarter of a *French* mile, or three quarters of an *Engliſh* mile broad at *Quebec*. The ſalt water never comes up to the town in it, and therefore the inhabitants can make uſe of the water in the river for their kitchens, &c. All accounts agree that notwithſtanding the breadth of this river, and the violence of its courſe, eſpecially during ebb, it is covered with ice during the whole winter, which is ſtrong enough for walking, and a carriage may go over it. It is ſaid to happen frequently that, when the river has been open in *May*, there are ſuch cold nights in this month, that it freezes again, and will bear walking over. This is a clear proof of the intenſeneſs of the froſt here, eſpecially when one conſiders that which I ſhall mention immediately after, about the ebbing and flowing of the tide in this river. The greateſt breadth of the river at its mouth, is computed, to be twenty-ſix *French* miles or ſeventy-eight *Engliſh* miles, though the boundary between the ſea, and the river cannot well be aſcertained as the latter gradually loſes itſelf in, and unites with the former. The greateſt part of the water contained in the numerous lakes of *Canada*, four or

* Meaning *Quel bec*.

five

five of which are like large ſeas, is forced to diſembogue into the ſea by means of this river alone. The navigation up this river from the ſea is rendered very dangerous by the ſtrength of the current, and by the number of ſand-banks, which often ariſe in places where they never were before. The *Engliſh* have experienced this formation of new ſands once or twice, when they attempted to conquer *Canada*. Hence the *French* have good reaſons to look upon the river as a barrier to *Canada**.

The tide goes far beyond *Quebec* in the river *St. Lawrence*, as I have mentioned above. The difference between high and low water is generally between fifteen and ſixteen feet, *French* meaſure; but with the new and full moon, and when the wind is likewiſe favourable, the difference is ſeventeen or eighteen feet, which is indeed very conſiderable.

Auguſt 7th. *Ginſeng* is the current *French* name in *Canada*, of a plant, the root of which has a very great value in *China*†. It has been growing ſince times immemorial in the *Chineſe Tartary* and in *Corea*, where it is annually collected and brought to *China*. Father *Du Halde*

* The river *St. Lawrence* was no more a barrier to the victorious *Britiſh* fleets in the laſt war, nor were the fortifications of *Quebec* capable to withſtand the gallant attacks of their land army, which diſappointed the good *Frenchmen* in *Canada* of their too ſanguine expectations; and, at preſent, they are rather happy at this change of fortune, which has made them ſubjects of the *Britiſh* ſceptre, whoſe mild influence they at preſent enjoy. F.

† Botaniſts know this plant by the name of *Panax quinquefolium*, foliis ternatis quinatis Linn. Mat. Med. § 116. Sp. plant. p. 15. 12. *Gronov.* Fl. *Virg.* p. 147. See likewiſe *Cateſby*'s Nat. Hiſt. of *Carolina*, Vol. III. p. 16. t. 16. *Laffitau* Ginſ. 51. t. 1. Father *Charlevoix* Hiſt. de la Nouvelle France, Tom. IV. p. 308. fig. XIII. and Tom. V. p. 24.

ſays, it is the moſt precious, and the moſt uſeful of all the plants in eaſtern *Tartary*; and attracts, every year, a number of people into the deſerts of that country. The *Mantechoux-Tartars* call it *Orhota*, that is the moſt noble, or the queen of plants. The *Tartars* and *Chineſe* praiſe it very much, and aſcribe to it the power of curing ſeveral dangerous diſeaſes, and that of reſtoring to the body new ſtrength, and ſupplying the loſs cauſed by the exertion of the mental, and corporeal faculties. An ounce of *Ginſeng* bears the ſurprizing price of ſeven or eight ounces of ſilver at *Peking*. When the *French* botaniſts in *Canada* firſt ſaw a figure of it, they remembered to have ſeen a ſimilar plant in this country. They were confirmed in their conjecture by conſidering that ſeveral ſettlements in *Canada*, ly under the ſame latitude with thoſe parts of the *Chineſe Tartary*, and *China*, where the true *Ginſeng* grows wild. They ſucceeded in their attempt, and found the ſame *Ginſeng* wild and abundant in ſeveral parts of *North-America*, both in *French* and *Engliſh* plantations, in plain parts of the woods. It is fond of ſhade, and of a deep rich mould, and of land which is neither wet nor high. It is not every where very common, for ſometimes one may ſearch the woods for the ſpace of ſeveral miles without finding a ſingle plant of it; but in thoſe ſpots where it grows it is always found in great abundance. It flowers in *May* and *June*, and its berries are ripe at the end of *Auguſt*. It bears tranſplanting very well, and will ſoon thrive in its new ground. Some people here, who have gathered the berries, and put them into their kitchen-gardens, told me that they

they lay one or two years in the ground without coming up. The *Iroqueſe*, or Five (Six) Nations, call the *Ginſeng* roots *Garangtoging*, which it is ſaid ſignifies *a child*, the roots bearing a faint reſemblance to it: but others are opinion that they mean the thigh and leg by it, and the roots look pretty like it. The *French* uſe this root for curing the aſthma, as a ſtomachic, and to promote fertility in women. The trade which is carried on with it here is very briſk; for they gather great quantities of it, and ſend them to *France*, from whence they are brought to *China*, and ſold there to great advantage*. It is ſaid the merchants in *France* met with amazing ſucceſs in this trade at the firſt outſet, but by continuing to ſend the *Ginſeng* over to *China*, its price is fallen conſiderably there, and conſequently in *France* and *Canada*; however, they ſtill find their account in it. In the ſummer of 1748, a pound of *Ginſeng* was ſold for ſix Francs, or Livres, at *Quebec*; but its common price here is one hundered Sols, or five Livres. During my ſtay in *Canada*, all the merchants at *Quebec* and *Montreal* received orders from their correſpondents in *France* to ſend over a quantity of *Ginſeng*, there being an uncommon demand for it this ſummer. The roots were accordingly collected in *Canada* with all poſſible diligence; the *Indians* eſpecially travelled about the country in order to collect as much as they could together, and to ſell it to the

* Mr. *Oſbeck* ſeemes to doubt whether the *Europeans* reap any advantages from the *Ginſeng* trade or not, becauſe the *Chineſe* do not value the *Canada* roots ſo much as thoſe of the *Chineſe-Tartary*; and therefore the former bear ſcarce half the price of the latter. See *Oſbeck's Voyage to China*, Vol. I. p. 223. F.

merchants

merchants at *Montreal.* The *Indians* in the neighbourhood of this town were likewiſe ſo much taken up with this buſineſs, that the *French* farmers were not able during that time to hire a ſingle *Indian*, as they commonly do, to help them in the harveſt. Many people feared leſt by continuing for ſeveral ſucceſſive years, to collect theſe plants without leaving one or two in each place to propagate their ſpecies, there will ſoon be very few of them left; which I think is very likely to happen, for by all accounts they formerly grew in abundance round *Montreal*, but at preſent there is not a ſingle plant of it to be found, ſo effectually have they been rooted out. This obliged the *Indians* this ſummer to go far within the *Engliſh* boundaries to collect theſe roots. After the *Indians* have ſold the freſh roots to the merchants, the latter muſt take a great deal of pains with them. They are ſpread on the floor to dry, which commonly requires two months and upwards, according as the ſeaſon is wet or dry. During that time they muſt be turned once or twice every day, leſt they ſhould putrify or moulder. *Ginſeng* has never been found far north of *Montreal.* The ſuperior of the clergy here, and ſeveral other people, aſſured me that the *Chineſe* value the *Canada Ginſeng* as much as the *Tartarian**; and that no one ever had been entirely acquainted with the *Chineſe* method of preparing it. However it is thought amongſt other prepa-

* This is directly oppoſite to Mr *Oſbeck*'s aſſertion. See the preceding page, 272. note †. F.

rations they dip the roots in a decoction of the leaves of *Ginſeng*. The roots prepared by the *Chineſe* are almoſt tranſparent, and look like horn in the inſide; and the roots which are fit for uſe, muſt be heavy and compact in the inſide.

THE plant which throughout *Canada* bears the name of *Herba capillaris* is likewiſe one of thoſe with which a great trade is carried on in *Canada*. The *Engliſh* in their plantations call it *Maiden-hair*; it grows in all their *North-American* colonies, which I travelled through, and likewiſe in the ſouthern parts of *Canada*; but I never found it near *Quebec*. It grows in the woods in ſhady places and in a good ſoil *. Several people in *Albany* and *Canada*, aſſured me that its leaves were very much uſed inſtead of tea, in conſumptions, coughs, and all kinds of pectoral diſeaſes. This they have learnt from the *Indians*, who have made uſe of this plant for theſe purpoſes ſince times immemorial. This *American* maiden-hair is reckoned preferable in ſurgery to that which we have in *Europe* †; and therefore they ſend a great quantity of it to *France*, every year. The price is different, and regulated according to the goodneſs of the plant, the care in preparing it, and the quantity which is to be got. For if it be brought to *Quebec* in great abundance, the price

* It is the *Adiantum pedatum* of LINN. ſp. pl. p. 1557. *Cornutus*, in his *Canadenſ. plant. hiſtoria.* p. 7. calls it *Adiantum Americanum*, and gives together with the deſcription, a figure of it, p. 6.

† *Adiantum Capillus Veneris.* True Maiden-hair.

falls;

falls; and on the contrary it riſes, when the quantity gathered is but ſmall. Commonly the price at *Quebec* is between five and fifteen ſols a pound. The *Indians* went into the woods about this time, and travelled far above *Montreal* in queſt of this plant.

THE *Kitchen herbs* ſucceed very well here. The white cabbage is very fine, but ſometimes ſuffers greatly from worms. Onions *(Allium cepa)* are very much in uſe here, together with other ſpecies of leeks. They likewiſe plant ſeveral ſpecies of gourds, melons, ſallads, wild ſuccory or wild endive *(Cichorium Intybus,)* ſeveral kinds of peaſe, beans, *French* beans, carrots, and cucumbers. They have plenty of red beets, horſe-raddiſhes and common raddiſhes, thyme, and marjoram. *Turneps* are ſown in abundance, and uſed chiefly in winter. *Parſneps* are ſometimes eaten, though not very common. Few people took notice of potatoes; and neither the common (*Solanum tuberoſum*) nor the *Bermuda* ones *(Convolvulus Batatas)* were planted in *Canada*. When the *French* here are aſked why they do not plant potatoes, they anſwer that they cannot find any reliſh in them, and they laugh at the *Engliſh* who are ſo fond of them. Throughout all *North-America* the root cabbage * *(Braſſica gongylodes Linn.)* is unknown to the *Swedes*, *Engliſh*, *Dutch*, *Iriſh*, *Germans*, and *French*. Thoſe who have been

* This is a kind of cabbage, with large round eatable roots; which grow out above the ground wherein it differs from the turnep-cabbage *(Braſſica Napobraſſica)* whoſe root grows in the ground. Both are common in *Germany*, and the former likewiſe in *Italy*.

employed in ſowing and planting kitchen herbs in *Canada*, and have had ſome experience in gardening, told me that they were obliged to ſend for freſh ſeeds from *France* every year, becauſe they commonly loſe their ſtrength here in the third generation, and do not produce ſuch plants as would equal the original ones in taſte and goodneſs.

The *Europeans* have never been able to find any characters, much leſs writings, or books, among the *Indians*, who have inhabited *North-America* ſince time immemorial, and ſeem to be all of one nation, and ſpeak the ſame language. Theſe *Indians* have therefore lived in the greateſt ignorance and darkneſs, during ſome centuries, and are totally unacquainted with the ſtate of their country before the arrival of the *Europeans*, and all their knowledge of it conſiſts in vague traditions, and mere fables. It is not certain whether any other nations poſſeſſed *America*, before the preſent *Indian* inhabitants came into it, or whether any other nations viſited this part of the globe before *Columbus* diſcovered it. It is equally unknown, whether the *Chriſtian* religion was ever preached here in former times. I converſed with ſeveral Jeſuits, who undertook long journies in this extenſive country, and aſked them, whether they had met with any marks that there had formerly been ſome *Chriſtians* among the *Indians* which lived here? but they all anſwered, they had not found any. The *Indians* have ever been as ignorant of architecture and manual labour as of ſcience and writing. In vain does one ſeek for well built towns and houſes, artificial fortifications, high

high towers and pillars, and ſuch like, among them, which the old world can ſhew, from the moſt antient times. Their dwelling-places are wretched huts of bark, expoſed on all ſides to wind, and rain. All their maſonry-work conſiſts in placing a few grey rock-ſtones on the ground, round their fire-place, to prevent the firebrands from ſpreading too far in their hut, or rather to mark out the ſpace intended for the fire-place in it. Travellers do not enjoy a tenth part of the pleaſure in traverſing theſe countries, which they muſt receive on their journies through our old countries, where they, almoſt every day, meet with ſome veſtige or other of antiquity: now an antient celebrated town preſents itſelf to view; here the remains of an old caſtle; there a field where, many centuries ago, the moſt powerful, and the moſt ſkilful generals, and the greateſt kings, fought a bloody battle; now the native ſpot and reſidence of ſome great or learned man. In ſuch places the mind is delighted in various ways, and repreſents all paſt occurrences in living colours to itſelf. We can enjoy none of theſe pleaſures in *America*. The hiſtory of the country can be traced no further, than from the arrival of the *Europeans*; for every thing that happened before that period, is more like a fiction or a dream, than any thing that really happened. In later times there have, however, been found a few marks of antiquity, from which it may be conjectured, that *North-America* was formerly inhabited by a nation more verſed in ſcience, and more civilized, than that which

the *Europeans* found on their arrival here; or that a great military expedition was undertaken to this continent, from theſe known parts of the world.

THIS is confirmed by an account which I received from Mr. *de Verandriere*, who has commanded the expedition to the ſouth-ſea in perſon, of which I ſhall preſently give an account. I have heard it repeated by others, who have been eye-witneſſes of every thing that happened on that occaſion. Some years before I came into *Canada*, the then governor-general, *Chevalier de Beauharnois*, gave Mr. *de Verandrier* an order to go from *Canada*, with a number of people, on an expedition acroſs *North-America* to the ſouth-ſea, in order to examine how far thoſe two places are diſtant from each other, and to find out what advantages might accrue to *Canada*, or *Louiſiana*, from a communication with that ocean. They ſet out on horſeback from *Montreal*, and went as much due weſt as they could, on account of the lakes, rivers, and mountains, which fell in their way. As they came far into the country, beyond many nations, they ſometimes met with large tracts of land free from wood, but covered with a kind of very tall graſs, for the ſpace of ſome days journey. Many of theſe fields were every where covered with furrows, as if they had been ploughed and ſown formerly. It is to be obſerved, that the nations, which now inhabit *North-America*, could not cultivate the land in this manner, becauſe they never made uſe of horſes, oxen, ploughs, or any inſtruments of huſbandry, nor had they ever ſeen a plough before

before the *Europeans* came to them. In two or three places, at a conſiderable diſtance from each other, our travellers met with impreſſions of the feet of grown people and children in a rock; but this ſeems to have been no more than a *Luſus Naturæ*. When they came far to the weſt, where, to the beſt of their knowledge, no *Frenchmen*, or *European*, had ever been, they found in one place in the woods, and again on a large plain, great pillars of ſtone, leaning upon each other. The pillars conſiſted of one ſingle ſtone each, and the *Frenchmen* could not but ſuppoſe, that they had been erected by human hands. Sometimes they have found ſuch ſtones laid upon one another, and, as it were, formed into a wall. In ſome of thoſe places where they found ſuch ſtones, they could not find any other ſorts of ſtone. They have not been able to diſcover any characters, or writing, upon any of theſe ſtones, though they have made a very careful ſearch after them. At laſt they met with a large ſtone, like a pillar, and in it a ſmaller ſtone was fixed, which was covered on both ſides with unknown characters. This ſtone, which was about a foot of *French* meaſure in length, and between four or five inches broad, they broke looſe, and carried to *Canada* with them, from whence it was ſent to *France*, to the ſecretary of ſtate, the count of *Maurepas*. What became of it afterwards is unknown to them, but they think it is yet preſerved in his collection. Several of the Jeſuits, who have ſeen and handled this ſtone in *Canada*, unanimouſly affirm, that the letters on it are the ſame with thoſe which in the books,

containing accounts of *Tataria*, are called *Tatarian* characters *; and that, on comparing both together, they found them perfectly alike. Not-

* This account ſeems to be highly probable, for we find in *Marco Paolo* that *Kublai-Khan*, one of the ſucceſſors of *Genghizkhan*, after the conqueſt of the ſouthern part of *China*, ſent ſhips out to conquer the kingdom of *Japan*, or, as they call it, *Nipan-gri*, but in a terrible ſtorm the whole fleet was caſt away, and nothing was ever heard of the men in that fleet. It ſeems that ſome of theſe ſhips were caſt to the ſhores, oppoſite the great *American* lakes, between forty and fifty degrees north latitude, and there probably erected theſe monuments, and were the anceſtors of ſome nations who are called *Mozomlecks*, and have ſome degree of civilization. Another part of this fleet, it ſeems, reached the country oppoſite *Mexico*, and there founded the *Mexican* empire, which, according to their own records as preſerved by the *Spaniards*, and in their painted annals in *Purchas's Pilgrimage*, are very recent; ſo that they can ſcarcely remember any more than ſeven princes before *Motezuma* II. who was reigning when the *Spaniards* arrived there, 1519, under *Fernando Cortez*; conſequently the firſt of theſe princes, ſuppoſing each had a reign of thirty-three years and four months, and adding to it the ſixteen years of *Motezuma*, began to reign in the year 1270, when *Kublai-Khan*, the conqueror of all *China* and of *Japan*, was on the throne, and in whoſe time happened, I believe, the firſt abortive expedition to *Japan*, which I mentioned above, and probably furniſhed *North-America* with civilized inhabitants. There is, if I am not miſtaken, a great ſimilarity between the figures of the *Mexican* idols, and thoſe which are uſual among the *Tartars*, who embrace the doctrines and religion of the *Dalaï-Lama*, whoſe religion *Kublai-Khan* firſt introduced among the *Monguls*, or *Moguls*. The ſavage *Indians* of *North-America*, it ſeems, have another origin, and are probably deſcended from the *Yukaghiri*, and *Tchuckitchai*, inhabitants of the moſt eaſterly and northerly part of *Aſia*, where, according to the accounts of the *Ruſſians*, there is but a ſmall traject to *America*. The ferocity of theſe nations, ſimilar to that of the *Americans*, their way of painting, their fondneſs of inebriating liquors, (which the *Yukaghiri* prepare from poiſonous and inebriating muſhrooms, bought of the *Ruſſians*) and many other things, ſhow them plainly to be of the ſame origin. The *Eſkimaux* ſeems to be the ſame nation with the inhabitants of *Greenland*, the *Samoyedes*, and *Lapponians*. *South-America*, and eſpecially *Peru*, is probably peopled from the great unknown ſouth continent, which is very near *America*, civilized, and full of inhabitants of various colours; who therefore might very eaſily be caſt on the *American* continent, in boats, or proas. F.

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withſtanding the queſtions which the *French* on the ſouth-ſea expedition aſked the people there concerning the time when, and by whom thoſe pillars were erected? what their traditions and ſentiments concerning them were? who had wrote the characters? what was meant by them? what kind of letters they were? in what language they were written? and other circumſtances; yet they could never get the leaſt explication, the *Indians* being as ignorant of all thoſe things as the *French* themſelves. All they could ſay was, that theſe ſtones had been in thoſe places time immemorial. The places where the pillars ſtood were near nine hundred *French* miles weſtward of *Montreal.* The chief intention of this journey, *viz.* to come to the ſouth-ſea, and to examine its diſtance from *Canada,* was never attained on this occaſion. For the people ſent out for that purpoſe, were induced to take part in a war between ſome of the moſt diſtant *Indian* nations, in which ſome of the *French* were taken priſoners, and the reſt obliged to return. Among the laſt and moſt weſterly *Indians* they were with, they heard that the ſouth-ſea was but a few days journey off; that they (the *Indians*) often traded with the *Spaniards* on that coaſt, and ſometimes likewiſe they went to *Hudſon's Bay,* to trade with the *Engliſh.* Some of theſe *Indians* had houſes, which were made of earth. Many nations had never ſeen any *Frenchmen*; they were commonly clad in ſkins, but many were quite naked.

All thoſe who had made long journies in *Canada* to the ſouth, but chiefly weſtward, agreed that

that there were many great plains deſtitute of trees, where the land was furrowed, as if it had been ploughed. In what manner this happened no one knows; for the corn-fields of a great village, or town, of the *Indians*, are ſcarce above four or ſix of our acres in extent; whereas thoſe furrowed plains ſometimes continue for ſeveral days journey, except now and then a ſmall ſmooth ſpot, and here and there ſome riſing grounds.

I COULD not hear of any more veſtiges of antiquity in *Canada*, notwithſtanding my careful enquiries after them. In the continuation of my journey, for the year 1750 *, I ſhall find an opportunity of ſpeaking of two other remarkable curioſities. Our *Swediſh* Mr. *George Weſtman*, A. M. has clearly and circumſtantially ſhewn that our *Scandinavians*, chiefly the northern ones, long before *Columbus*'s time, have undertaken voyages to *North-America*; ſee his diſſertation on that ſubject, which he read at *Abo* in 1747, for obtaining his degree.

Auguſt 8th. THIS morning I viſited the largeſt nunnery in *Quebec*. Men are prohibited from viſiting under very heavy puniſhments; except in ſome rooms, divided by iron rails, where the men and women, that do not belong to the convent, ſtand without, and the nuns within the rails, and converſe with each other. But to encreaſe the many favours which the *French* nation heaped upon me, as a *Swede*, the governor-general got the biſhop's leave for me to enter

* This part has not yet been publiſhed.

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the convent, and ſee its conſtruction. The biſhop alone has the power of granting this favour, but he does it very ſparingly. The royal phyſician, and a ſurgeon, are however at liberty to go in as often as they think proper. Mr. *Gaulthier*, a man of great knowledge in phyſic and botany, was at preſent the royal phyſician here, and accompanied me to the convent. We firſt ſaw the hoſpital, which I ſhall preſently deſcribe, and then entered the convent, which forms a part of the hoſpital. It is a great building of ſtone, three ſtories high, divided in the inſide into long galleries, on both ſides of which are cells, halls, and rooms. The cells of the nuns are in the higheſt ſtory, on both ſides of the gallery; they are but ſmall; not painted in the inſide, but hung with paper pictures of ſaints, and of our Saviour on the croſs. A bed with curtains, and good bed-clothes, a little narrow deſk, and a chair or two, is the whole furniture of a cell. They have no fires in winter, and the nuns are forced to ly in the cold cells. On the gallery is a ſtove, which is heated in winter, and as all the rooms are left open, ſome warmth can by this means come into them. In the middle ſtory are rooms where they paſs the day together. One of theſe is the room where they are at work; this is large, finely painted and adorned, and has an iron ſtove. Here they were at their needle-work, embroidering, gilding, and making flowers of ſilk, which bear a great ſimilarity to the natural ones. In a word, they were all employed in ſuch nice works, as were ſuitable to ladies of their rank in life. In another hall

hall they aſſembled to hold their juntos. Another apartment contains thoſe who are indiſpoſed; but ſuch as are more dangerouſly ill have rooms to themſelves. The novices, and new comers, are taught and inſtructed in another hall. Another is deſtined for their refectory, or dining-room, in which are tables on all ſides; on one ſide of it is a ſmall deſk, on which is laid a *French* book, concerning the life of thoſe ſaints who are mentioned in the New Teſtament. When they dine, all are ſilent; one of the eldeſt gets into the deſk, and reads a part of the book before-mentioned; and when they are gone through it, they read ſome other religious book. During the meal, they ſit on that ſide of the table which is turned towards the wall. Almoſt in every room is a gilt table, on which are placed candles, together with the picture of our Saviour on the croſs, and of ſome ſaints: before theſe tables they ſay their prayers. On one ſide is the church, and near it a large gallery, divided from the church by rails, ſo that the nuns could only look into it. In this gallery they remain during divine ſervice, and the clergyman is in the church, where the nuns reach him his ſacerdotal clothes through a hole, for they are not allowed to go into the veſtry, and to be in the ſame room with the prieſt. There are ſtill ſeveral other rooms and halls here, the uſe of which I do not remember. The loweſt ſtory contains a kitchen, bake houſe, ſeveral butteries, *&c.* In the garrets they keep their corn, and dry their linen. In the middle ſtory is a balcony on the outſide, almoſt round the

the whole building, where the nuns are allowed to take air. The proſpect from the convent is very fine on every ſide; the river, the fields, and the meadows out of town, appear there to great advantage. On one ſide of the convent is a large garden, in which the nuns are at liberty to walk about; it belongs to the convent, and is ſurrounded with a high wall. There is a quantity of all ſorts of fruits in it. This convent, they ſay, contains about fifty nuns, moſt of them advanced in years, ſcarce any being under forty years of age. At this time there were two young ladies among them who were inſtructed in thoſe things which belong to the knowledge of nuns. They are not allowed to become nuns immediately after their entrance, but muſt paſs through a noviciate of two or three years, in order to try whether they will be conſtant. For, during that time, it is in their power to leave the convent, if a monaſtic life does not ſuit their inclinations. But as ſoon as they are received among the nuns, and have made their vows, they are obliged to continue their whole life in it: if they appear willing to change their mode of life, they are locked up in a room, from whence they can never get out. The nuns of this convent never go further from it than to the hoſpital, which lies near it, and even makes a part of it. They go there to attend the ſick, and to take care of them. I was told by ſeveral people here, ſome of which were ladies, that none of the nuns went into a convent, till ſhe had attained to an age in which ſhe had ſmall hopes of ever getting a huſband. The nuns

nuns of all the three convents in *Quebec* looked very old, by which it ſeems that there is ſome foundation for this account.

THE hoſpital, as I have before-mentioned, makes a part of the convent. It conſiſts of two large halls, and ſome rooms near the apothecary's ſhop. In the halls are two rows of beds on each ſide, within each other. The beds next to the wall are furniſhed with curtains, the outward ones are without them. In each bed are fine bed-clothes, with clean double ſheets. As ſoon as a ſick perſon has left his bed, it is made again, in order to keep the hoſpital in cleanlineſs and order. The beds are two or three yards diſtant, and near each is a ſmall table. There are good iron ſtoves, and fine windows, in this hall. The nuns attend the ſick people, and bring them meat, and other neceſſaries. Beſides them there are ſome men who attend, and a ſurgeon. The royal phyſician is likewiſe obliged to come hither, once or twice every day, to look after every thing, and give preſcriptions. They commonly receive ſick ſoldiers into this hoſpital, who are very numerous in *July* and *Auguſt*, when the king's ſhips arrive, and in time of war. But at other times, when no great number of ſoldiers are ſick, other people can take their places, as far as the number of empty beds will reach. The king finds every thing here that is requiſite for the ſick perſons, viz. proviſions, medicines, fewel, &c. Thoſe who are very ill are put into ſeparate rooms, in order that the noiſe in the great hall may not be troubleſome to them.

THE civility of the inhabitants here is more refined than that of the *Dutch* and *Engliſh*, in the ſettlements belonging to *Great Britain*; but the latter, on the other hand, do not idle their time away in dreſſing, as the *French* do here. The ladies, eſpecially, dreſs and powder their hair every day, and put their locks in papers evey night; which idle cuſtom was not introduced in the *Engliſh* ſettlements. The gentlemen wear generally their own hair; but ſome have wigs. People of rank are uſed to wear laced cloaths, and all the crown-officers wear ſwords. All the gentlemen, even thoſe of rank, the governor-general excepted, when they go into town on a day that looks like rain, carry their cloaks on their left arm. Acquaintances of either ſex, who have not ſeen each other for ſome time, on meeting again ſalute with mutual kiſſes.

CONCERNING the *Canada* plants, I can here add, that the further you go northward, the more you find the plants are the ſame with the *Swediſh* ones: thus, on the north ſide of *Quebec*, a fourth part of the plants, if not more, are the ſame with the ſpontaneous plants in *Sweden*. A few plants and trees, which have a particular quality, or are applied to ſome particular uſe, ſhall, however, be mentioned in a few words, in the ſequel.

THE *Rein-deer Moſs (Lichen rangiferinus)* grows plentiful in the woods round *Quebec*. M. *Gaulthier*, and ſeveral other gentlemen, told me, that the *French*, on their long journies through the woods, on account of their fur trade

trade with the *Indians*, ſometimes boil this moſs, and drink the decoction, for want of better food, when their proviſions are at an end; and they ſay it is very nutritive. Several *Frenchmen*, who have been in the *Terra Labrador*, where there are many rein-deer (which the *French* and *Indians* here call *Cariboux*) related, that all the land there is in moſt places covered with this rein-deer moſs, ſo that the ground looks as white as ſnow.

Auguſt 10th. THIS day I dined with the Jeſuits. A few days before, I paid my viſit to them; and the next day their preſident, and another father Jeſuit, called on me, to invite me to dine with them to-day. I attended divine ſervice in their church, which is a part of their houſe. It is very fine within, though it has no ſeats; for every one is obliged to kneel down during the ſervice. Above the church is a ſmall ſteeple, with a clock. The building the Jeſuits live in is magnificently built, and looks exceeding fine, both without and within; which gives it a ſimilarity to a fine palace. It conſiſts of ſtone, is three ſtories high, excluſive of the garret covered with ſlates, and built in a ſquare form, like the new palace at *Stockholm*, including a large court. Its ſize is ſuch, that three hundred families would find room enough in it; though at preſent there were not above twenty Jeſuits in it. Sometimes there is a much greater number of them, eſpecially when thoſe return, who have been ſent as miſſionaries into the country. There is a long walk along the ſides of the ſquare, in every ſtory

ſtory, on both ſides of which are either cells, halls, or other apartments for the friars; and likewiſe their library, apothecary-ſhop, &c. Every thing is very well regulated, and the Jeſuits are very well accommodated, here. On the outſide is their college, which is on two ſides ſurrounded with great orchards and kitchen-gardens, in which they have fine walks. A part of the trees here, are the remains of the foreſt which ſtood here when the *French* began to build this town. They have beſides planted a number of fruit-trees; and the garden is ſtocked with all ſorts of plants for the uſe of the kitchen. The Jeſuits dine together in a great hall. There are tables placed all round it along the walls, and ſeats between the tables and the walls, but not on the other ſide. Near one wall is a pulpit, upon which one of the fathers gets during the meal, in order to read ſome religious book; but this day it was omitted, all the time being employed in converſation. They dine very well, and their diſhes are as numerous as at the greateſt feaſts. In this ſpacious building you do not ſee a ſingle woman; all are fathers, or brothers; the latter of which are young men, brought up to be Jeſuits. They prepare the meal, and bring it upon table; for the common ſervants are not admitted.

Besides the biſhop, there are three kinds of clergymen in *Canada*; viz. Jeſuits, prieſts, and recolets. The Jeſuits are, without doubt, the moſt conſiderable; therefore they commonly ſay here, by way of proverb, that a hatchet is ſufficient to ſketch out a recolet; a prieſt can-

not be made without a chiſſel; but a Jeſuit abſolutely requires the pencil*; to ſhew how much one ſurpaſſes the others. The Jeſuits are commonly very learned, ſtudious, and are very civil and agreeable in company. In their whole deportment there is ſomething pleaſing; it is no wonder therefore that they captivate the minds of the people. They ſeldom ſpeak of religious matters; and if it happens, they generally avoid diſputes. They are very ready to do any one a ſervice; and when they ſee that their aſſiſtance is wanted, they hardly give one time to ſpeak of it, falling to work immediately, to bring about what is required of them. Their converſation is very entertaining and learned, ſo that one cannot be tired of their company. Among all the Jeſuits I have converſed with in *Canada*, I have not found one who was not poſſeſſed of theſe qualities in a very eminent degree. They have large poſſeſſions in this country, which the *French* king gave them. At *Montreal* they have likewiſe a fine church, and a little neat houſe, with a ſmall but pretty garden within. They do not care to become preachers to a congregation in the town or country; but leave theſe places, together with the emoluments ariſing from them, to the prieſts. All their buſineſs here is to convert the heathens; and with that view their miſſionaries are ſcattered over every part of this country. Near every town and village, peopled by converted *Indians*, are one or two

* *Pour faire un recolet il faut une hachette, pour un prêtre un ciſeau, mais pour un Jeſuite il faut un pinceau.*

Jeſuits,

Jeſuits, who take great care that they may not return to paganiſm, but live as chriſtians ought to do. Thus there are Jeſuits with the converted *Indians* in *Tadouſſac*, *Lorette*, *Becancourt*, *St. François*, *Saut St. Louis*, and all over *Canada*. There are likewiſe Jeſuit miſſionaries with thoſe who are not converted; ſo that there is commonly a Jeſuit in every village belonging to the *Indians*, whom he endeavours on all occaſions to convert. In winter he goes on their great hunts, where he is frequently obliged to ſuffer all imaginable inconveniencies; ſuch as walking in the ſnow all day; lying in the open air all winter; being out both in good and bad weather, the *Indians* not regarding any kind of weather: lying in the *Indian* huts, which often ſwarm with fleas and other vermin, &c. The Jeſuits undergo all theſe hardſhips for the ſake of converting the *Indians*, and likewiſe for political reaſons. The Jeſuits are of great uſe to their king; for they are frequently able to perſuade the *Indians* to break their treaty with the *Engliſh*, to make war upon them, to bring their furs to the *French*, and not to permit the *Engliſh* to come amongſt them. But there is ſome danger attending theſe attempts; for when the *Indians* are in liquor, they ſometimes kill the miſſionaries who live with them; calling them ſpies, or excuſing themſelves by ſaying that the brandy had killed them. Theſe are accordingly the chief occupations of the Jeſuits here. They do not go to viſit the ſick in the town, they do not hear the confeſſions, and attend at no funerals. I have never ſeen them go in proceſſions in re-

membrance of the Virgin *Mary*, and other ſaints. They ſeldom go into a houſe in order to get meat; and though they be invited, they do not like to ſtay, except they be on a journey. Every body ſees, that they are, as it were, ſelected from the other people, on account of their ſuperior genius and qualities. They are here reckoned a moſt cunning ſet of people, who generally ſucceed in their undertakings, and ſurpaſs all others in acuteneſs of underſtanding. I have therefore ſeveral times obſerved that they have enemies in *Canada*. They never receive any others into their ſociety, but perſons of very promiſing parts; ſo that there are no blockheads among them. On the other hand, the prieſts receive the beſt kind of people among their order they can meet with; and in the choice of monks, they are yet leſs careful. The Jeſuits who live here, are all come from *France*; and many of them return thither again, after a ſtay of a few years here. Some (five or ſix of which are yet alive) who were born in *Canada*, went over to *France*, and were received among the Jeſuits there; but none of them ever came back to *Canada*. I know not what political reaſon hindered them. During my ſtay in *Quebec*, one of the prieſts, with the biſhop's leave, gave up his prieſthood, and became a Jeſuit. The other prieſts were very ill pleaſed with this, becauſe it ſeemed as if he looked upon their condition as too mean for himſelf. Thoſe congregations in the country that pay rents to the Jeſuits, have, however, divine ſervice performed by prieſts, who are appointed by the biſhop; and

and the land-rent only belongs to the Jeſuits. Neither the prieſts nor the Jeſuits carry on any trade with furs and ſkins, leaving that entirely to the merchants.

THIS afternoon I viſited the building called the *Seminary*, where all the prieſts live in common. They have a great houſe, built of ſtone, with walks in it, and rooms on each ſide. It is ſeveral ſtories high, and cloſe to it is a fine garden, full of all ſorts of fruit-trees and pot-herbs, and divided by walks. The proſpect from hence is the fineſt in *Quebec*. The prieſts of the ſeminary are not much inferior to the Jeſuits in civility; and therefore I ſpent my time very agreeably in their company.

THE prieſts are the ſecond and moſt numerous claſs of the clergy in this country; for moſt of the churches, both in towns and villages (the *Indian* converts excepted) are ſerved by prieſts. A few of them are likewiſe miſſionaries. In *Canada* are two *ſeminaries*; one in *Quebec*, the other in *Montreal*. The prieſts of the ſeminary in *Montreal* are of the order of *St. Sulpitius*, and ſupply only the congregation on the iſle of *Montreal*, and the town of the ſame name. At all the other churches in *Canada*, the prieſts belonging to the *Quebec* ſeminary officiate. The former, or thoſe of the order of *St. Sulpitius*, all come from *France*; and I was aſſured that they never ſuffer a native of *Canada* to come among them. In the ſeminary at *Quebec*, the natives of *Canada* make the greater part. In order to fit the children of this country for orders, there are ſchools at *Quebec*, and *St. Joachim*; where the youths are

taught *Latin*, and instructed in the knowledge of those things and sciences, which have a more immediate connexion with the business they are intended for. However, they are not very nice in their choice; and people of a middling capacity are often received among them. They do not seem to have made great progress in *Latin*; for notwithstanding the service is read in that language, and they read their *Latin* Breviary, and other books, every day, yet most of them found it very difficult to speak it. All the priests in the *Quebec* seminary are consecrated by the bishop. Both the seminaries have got great revenues from the king; that in *Quebec* has above thirty thousand livres. All the country on the west side of the river *St. Lawrence*, from the town of *Quebec* to bay *St. Paul*, belongs to this seminary, besides their other possessions in the country. They lease the land to the settlers for a certain rent, which, if it be annually paid according to their agreement, the children or heirs of the settlers may remain in an undisturbed possession of the lands. A piece of land, three *arpents* * broad, and thirty, forty, or fifty *arpents* long, pays annually an *ecu* †, and a couple of chickens, or some other additional trifle. In such places as have convenient waterfalls, they have built water-mills, or saw-mills, from which they annually get considerable sums. The seminary of *Montreal* possesses the whole ground on which that town stands, together with the whole isle of *Montreal*. I have been

* A *French* acre.

† A *French* coin, value about a crown *English*.

assured,

aſſured, that the ground-rent of the town and iſle is computed at ſeventy thouſand livres; beſides what they get for ſaying maſſes, baptizing, holding confeſſions, attending at marriages and funerals, &c. All the revenues of ground-rent belong to the ſeminaries alone, and the prieſts in the country have no ſhare in them. But as the ſeminary in *Montreal*, conſiſting only of ſixteen prieſts, has greater revenues than it can expend, a large ſum of money is annually ſent over to *France*, to the chief ſeminary there. The land-rents belonging to the *Quebec* ſeminary are employed for the uſe of the prieſts in it, and for the maintenance of a number of young people, who are brought up to take orders. The prieſts who live in the country pariſhes, get the tythe from their congregation, together with the perquiſites on viſiting the ſick, &c. In ſmall congregations, the king gives the prieſts an additional ſum. When a prieſt in the country grows old, and has done good ſervices, he is ſometimes allowed to come into the ſeminary in town. The ſeminaries are allowed to place the prieſts on their own eſtates; but the other places are in the gift of the biſhop.

THE recolets are the third claſs of clergymen in *Canada*. They have a fine large dwelling-houſe here, and a fine church, where they officiate. Near it is a large and fine garden, which they cultivate with great application. In *Montreal*, and *Trois Rivieres*, they are lodged almoſt in the ſame manner as here. They do not endeavour to chooſe cunning fellows amongſt them, but take all they can get. They do not torment their brains with much learning; and

I have been aſſured, that after they have put on their monaſtic habit, they do not ſtudy to increaſe their knowledge, but forget even what little they knew before. At night they generally ly on mats, or ſome other hard matraſſes; however, I have ſometimes ſeen good beds in the cells of ſome of them. They have no poſſeſſions here, having made vows of poverty, and live chiefly on the alms which people give them. To this purpoſe, the young monks, or brothers, go into the houſes with a bag, and beg what they want. They have no congregations in the country, but ſometimes they go among the *Indians* as miſſionaries. In each fort, which contains forty men, the king keeps one of theſe monks inſtead of a prieſt, who officiates there. The king gives him lodging, proviſions, ſervants and all he wants, beſides two hundred livres a year. Half of it he ſends to the community he belongs to; the other half he reſerves for his own uſe. On board the king's ſhips are generally no other prieſts than theſe friars, who are therefore looked upon as people belonging to the king. When one of the chief prieſts * in the country dies, and his place cannot immediately be filled up, they ſend one of theſe friars there, to officiate whilſt the place is vacant. Part of theſe monks come over from *France*, and part are natives of *Canada*. There are no other monks in *Canada* beſides theſe, except now and then one of the order of *St. Auſtin* or ſome other, who comes with one of the king's ſhips, but goes off with it again.

* *Paſteur*.

Auguſt 11th. THIS morning I took a walk out of town, with the royal phyſician M. *Gaulthier*, in order to collect plants, and to ſee a nunnery at ſome diſtance from *Quebec*. This monaſtery, which is built very magnificently of ſtone, lies in a pleaſant ſpot, ſurrounded with corn-fields, meadows, and woods, from whence *Quebec* and the river *St. Lawrence* may be ſeen; a hoſpital for poor old people, cripples, &c. makes part of the monaſtery, and is divided into two halls, one for men, the other for women. The nuns attend both ſexes, with this difference however, that they only prepare the meal for the men and bring it in to them, give them phyſic, and take the cloth away when they have eaten, leaving the reſt for male ſervants. But in the hall where the women are, they do all the work that is to be done. The regulation in the hoſpital was the ſame as in that at *Quebec*. To ſhew me a particular favour, the biſhop, at the deſire of the *Marquis la Galiſſonniere*, governor-general of *Canada*, granted me leave to ſee this nunnery likewiſe, where no man is allowed to enter, without his leave, which is an honour he ſeldom confers on any body. The abbeſs led us through all the apartments, accompanied by a great number of nuns. Moſt of the nuns here are of noble families and one was the daughter of a governor. Many of them are old, but there are likewiſe ſome very young ones among them, who looked very well. They ſeemed all to be more polite than thoſe in the other nunnery. Their rooms are the ſame as in the laſt place, except ſome additional furniture

ture in their cells; the beds are hung with blue curtains; there are a couple of ſmall bureaux, a table between them, and ſome pictures on the walls. There are however no ſtoves in any cell. But thoſe halls and rooms, in which they are aſſembled together, and in which the ſick ones ly, are ſupplied with an iron ſtove. The number of nuns is indeterminate here, and I ſaw a great number of them. Here are likewiſe ſome probationers preparing for their reception among the nuns. A number of little girls are ſent hither by their parents, to be inſtructed by the nuns in the principles of the chriſtian religion, and in all ſorts of ladies work. The convent at a diſtance looks like a palace, and, as I am told, was founded by a biſhop, who they ſay is buried in a part of the church.

We botanized till dinner-time in the neighbouring meadows, and then returned to the convent to dine with a venerable old father recolet, who officiated here as a prieſt. The diſhes were all prepared by nuns, and as numerous and various as on the tables of great men. There were likewiſe ſeveral ſorts of wine, and many preſerves. The revenues of this monaſtery are ſaid to be conſiderable. At the top of the building is a ſmall ſteeple with a bell. Conſidering the large tracts of land which the king has given in *Canada* to convents, *Jeſuits*, prieſts, and ſeveral families of rank, it ſeems he has very little left for himſelf.

Our common raſp-berries, are ſo plentiful here on the hills, near corn-fields, rivers, and brooks, that the branches look quite red on account

account of the number of berries on them. They are ripe about this time, and eaten as a desert after dinner, both fresh and preserved.

The *Mountain Ash*, or *Sorb-tree* * is pretty common in the woods hereabouts.

They reckon the north-east wind the most piercing of all, here. Many of the best people here, assured me, that this wind, when it is very violent in winter, pierces through walls of a moderate thickness, so that the whole wall on the inside of the house is covered with snow, or a thick hoar frost; and that a candle placed near a thinner wall is almost blown out by the wind which continually comes through. This wind damages the houses which are built of stone, and forces the owners to repair them very frequently on the north-east side. The north and north-east winds are likewise reckoned very cold here. In summer the north wind is generally attended with rain.

The difference of climate between *Quebec* and *Montreal* is on all hands allowed to be very great. The wind and weather of *Montreal* are often entirely different from what they are at *Quebec*. The winter there is not near so cold as in the last place. Several sorts of fine pears will grow near *Montreal*; but are far from succeeding at *Quebec*, where the frost frequently kills them. *Quebec* has generally more rainy weather, spring begins later, and winter sooner than at *Montreal*, where all sorts of fruits ripen a week or two earlier than at *Quebec*.

* *Sorbus aucuparia.*

Aug. 12th. THIS afternoon I went out of town, to ſtay in the country for a couple of days, that I might have more leiſure to examine the plants which grow in the woods here, and the ſtate of the country. In order to proceed the better, the governor-general had ſent for an *Indian* from *Lorette* to ſhew us the way, and teach us what uſe they make of the ſpontaneous plants hereabouts. This *Indian* was an *Engliſhman* by birth, taken by the *Indians* thirty years ago, when he was a boy, and adopted by them, according to their cuſtom, inſtead of a relation of theirs killed by the enemy. Since that time he conſtantly ſtayed with them, became a *Roman Catholic* and married an *Indian* woman: he dreſſes like an *Indian*, ſpeaks *Engliſh* and *French*, and many of the *Indian* languages. In the wars between the *French* and *Engliſh*, in this country, the *French Indians* have made many priſoners of both ſexes in the *Engliſh* plantations, adopted them afterwards, and they married with people of the *Indian* nations. From hence the *Indian* blood in *Canada* is very much mixed with *European* blood, and a great part of the *Indians* now living, owe their origin to *Europe*. It is likewiſe remarkable, that a great part of the people they had taken during the war and incorporated with their nations, eſpecially the young people, did not chooſe to return to their native country, though their parents and neareſt relations came to them and endeavoured to perſuade them to it, and though it was in their power to do it. The licentious life led by the *Indians*, pleaſed them better than that of their *European* relations;

tions; they dreſſed like the *Indians*, and regulated all their affairs in their way. It is therefore difficult to diſtinguiſh them, except by their colour, which is ſomewhat whiter than that of the *Indians*. There are likewiſe examples of ſome *Frenchmen* going amongſt the *Indians* and following their way of life. There is on the contrary ſcarce one inſtance of an *Indian*'s adopting the *European* cuſtoms; but thoſe who were taken priſoners in the war, have always endeavoured to come to their own people again, even after ſeveral years of captivity, and though they enjoyed all the privileges that were ever poſſeſſed by the *Europeans* in *America*.

The lands, which we paſſed over, were every where laid out into corn-fields, meadows, or paſtures. Almoſt all round us the proſpect preſented to our view farms and farm-houſes, and excellent fields and meadows. Near the town the land is pretty flat, and interſected now and then by a clear rivulet. The roads are very good, broad, and lined with ditches on each ſide, in low grounds. Further from the town, the land riſes higher and higher, and conſiſts as it were of terraces, one above another. This riſing ground is, however, pretty ſmooth, chiefly without ſtones, and covered with rich mould. Under that is the black lime-ſlate, which is ſo common hereabouts, and is divided into ſmall ſhivers, and corroded by the air. Some of the ſtrata were horizontal, others perpendicular; I have likewiſe found ſuch perpendicular ſtrata of lime-ſlates in other places, in the neighbourhood of *Quebec*. All the hills are cultivated;

and ſome are adorned with fine churches, houſes, and corn-fields. The meadows are commonly in the vallies, though ſome were likewiſe on eminencies. Soon after we had a fine proſpect from one of theſe hills. *Quebec* appeared very plain to the eaſtward, and the river *St. Lawrence* could likewiſe be ſeen; farther diſtant, on the ſouth-eaſt ſide of that river, appears a long chain of high mountains, running generally parallel to it, though many miles diſtant from it. To the weſt again, at ſome diſtance from the riſing lands where we were, the hills changed into a long chain of very high mountains, lying very cloſe to each other, and running parallel likewiſe to the river, that is nearly from ſouth to north. Theſe high mountains conſiſt of a grey rock-ſtone, compoſed of ſeveral kinds of ſtone, which I ſhall mention in the ſequel. Theſe mountains ſeem to prove, that the lime-ſlates are of as ancient a date as the grey rock-ſtone, and not formed in later times; for the amazing large grey rocks ly on the top of the mountains, which conſiſt of black lime-ſlates.

THE high meadows in *Canada* are excellent, and by far preferable to the meadows round *Philadelphia*, and in the other *Engliſh* colonies. The further I advanced northward here, the finer were the meadows, and the turf upon them was better and cloſer. Almoſt all the graſs here is of two kinds, *viz.* a ſpecies of the *narrow leaved meadow-graſs* *; for its ſpikes † con-

* *Poa anguſtifolia.* Linn.

† Spiculæ tri vel quadri-floræ minimæ; ſemina baſi pubeſcentia.

tain

tain either three or four flowers; which are ſo exceedingly ſmall, that the plant might eaſily be taken for a *bent graſs* *; and its ſeeds have ſeveral ſmall downy hairs at the bottom. The other plant, which grows in the meadows, is the *white clover* †. Theſe two plants form the hay in the meadows; they ſtand cloſe and thick together, and the meadow-graſs *(poa)* is pretty tall, but has very thin ſtalks. At the root of the meadow-graſs, the ground was quite covered with clover, ſo that one cannot wiſh for finer meadows, than are found here. Almoſt all the meadows have been formerly corn-fields, as appears from the furrows on the ground, which ſtill remained. They can be mown but once every ſummer, as ſpring commences very late.

THEY were now buſied with making hay, and getting it in, and I was told, they had begun about a week ago. They have hay-ſtacks near moſt of their meadows, and on the wet ones they make uſe of conic hay-ſtacks. Their meadows are commonly without encloſures, the cattle being in the paſtures on the other ſide of the woods, and having cowherds to take care of them where they are neceſſary.

THE corn-fields are pretty large. I ſaw no drains any where, though they ſeemed to be wanting in ſome places. They are divided into ridges, of the breadth of two or three yards broad, between the furrows. The perpendicular height of the middle of the ridge, from

* *Agroſtis.* Linn.

† *Trifolium repens.* Linn. *Trifolium pratenſe album.* C. B.

the level to the ground, is near one foot. All their corn is ſummer-corn; for as the cold in winter deſtroys the corn which lies in the ground, they never ſow in autumn. I found white wheat moſt commonly in the fields. They have likewiſe large fields with peaſe, oats, in ſome places ſummer-rye, and now and then barley. Near almoſt every farm I met with cabbages, pumpions, and melons. The fields are not always ſown, but ly fallow every two years. The fallow-fields are not ploughed in ſummer, ſo the weeds grow without reſtraint in them, and the cattle are allowed to go on them all ſummer *.

THE houſes in the country are built promiſcuouſly of ſtone, or wood. To thoſe of ſtone they do not employ bricks, as there is not yet any conſiderable quantity of bricks made here. They therefore take what ſtones they can find in the neighbourhood, eſpecially the black lime-ſlates. Theſe are quite compact when broke, but ſhiver when expoſed to the air; however, this is of little conſequence, as the ſtones ſtick faſt in the wall, and do not fall aſunder. For want of it, they ſometimes make their buildings of lime-ſtone, or ſand-ſtone, and ſometimes of grey rock-ſtone. The walls of ſuch houſes are commonly two feet thick, and ſeldom thinner. The people here can have lime every where in this neighbourhood. The greater part of the

* Here follows, in the original, an account of the enclоſures made uſe of near *Quebec*, which is intended only for the *Swedes*, but not for a nation that has made ſuch progreſs in agriculture and huſbandry as the *Engliſh*. F.

houſes

houſes in the country, are built of wood, and ſometimes plaiſtered over on the outſide. The chinks in the walls are filled with clay, inſtead of moſs. The houſes are ſeldom above one ſtory high. In every room is either a chimney or ſtove, or both together. The ſtoves have the form of an oblong ſquare; ſome are intirely of iron, about two feet and a half long, one foot and a half, or two feet, high, and near a foot and a half broad; theſe iron ſtoves are all caſt at the iron-works at *Trois Rivieres*. Some are made of bricks, or ſtones, not much larger than the iron ſtoves, but covered at top with an iron plate. The ſmoke from the ſtoves is conveyed up the chimney, by an iron pipe. In ſummer the ſtoves are removed.

This evening we arrived at *Lorette*, where we lodged with the Jeſuits.

Aug. 13th. In the morning we continued our journey through the woods to the high mountains, in order to ſee what ſcarce plants and curioſities we could get there. The ground was flat at firſt, and covered with a thick wood all round, except in marſhy places. Near half the plants, which are to be met with here, grow in the woods and moraſſes of *Sweden*.

We ſaw wild Cherry-trees here, of two kinds, which are probably mere varieties, though they differ in ſeveral reſpects. Both are pretty common in *Canada*, and both have red berries. One kind, which is called *Cerifier* by the *French*, taſtes like our *Alpine* cherries, and their acid contracts the mouth, and cheeks. The berries

of the other ſort have an agreeable ſourneſs, and a pleaſant taſte *.

The three-leaved Hellebore † grows in great plenty in the woods, and in many places it covers the ground by itſelf. However, it commonly chooſes moſſy places, that are not very wet; and the wood-ſorrel ‡, with the *Mountain Enchanter's Night-ſhade* ‖, are its companions. Its ſeeds were not yet ripe, and muſt of the ſtalks had no ſeeds at all. This plant is called *Tiſſavoyanne jaune* by the *French*, all over *Canada*. Its leaves and ſtalks are uſed by the *Indians*, for giving a fine yellow colour to ſeveral kinds of work, which they make of prepared ſkins. The *French*, who have learned this from them, dye wool and other things yellow with this plant.

We climbed with a great deal of difficulty to the top of one of the higheſt mountains here, and I was vexed to find nothing at its ſummit, but what I had ſeen in other parts of *Canada* before. We had not even the pleaſure of a proſpect, becauſe the trees, with which the mountain is covered, obſtructed it. The trees that grow here are a kind of horn-beam, or *Carpinus Oſtrya, Linn.* the *American* elm, the red maple, the ſugar-maple, that kind of maple which cures ſcorched wounds (which I have not yet deſcribed), the beech, the common birch-tree, the

* The kind called *Ceriſier* by the *French*, I deſcribed thus in my journal: *Ceraſus foliis ovatis ſerratis, ſerraturis profundis fere ſubulatis, fructu racemoſo.* The other thus: *Ceraſus foliis lanceolatis, cronato-ſerratis, acutis, fructu fere ſolitario.*

† Helleborus trifolius.

‡ *Oxalis Acetoſella*, Linn.

‖ *Circæa Alpina*, Linn.

ſugar-birch ‡, the ſorb-tree, the *Canada* pine, called *Peruſſe*, the mealy-tree with dentated leaves *, the aſh, the cherry-tree, *(Certiſier)* juſt before deſcribed, and the berry-bearing yew.

THE Gnats in this wood were more numerous than we could have wiſhed. Cold water they reckon the beſt remedy againſt the bite, when the wounded places are waſhed with it immediately after.

AT night we returned to *Lorette*, having accurately examined the plants of note we met with to-day.

Auguſt 14th. *Lorette* is a village three *French* miles to the weſtward of *Quebec*. Inhabited chiefly by *Indians* of the *Huron* nation, converted to the Roman catholic religion. The village lies near a little river, which falls over a rock there, with a great noiſe, and turns a ſaw-mill, and a flour-mill. When the Jeſuit, who is now with them, arrived among them, they lived in their uſual huts, which are made like thoſe of the *Laplanders*. They have ſince laid aſide this cuſtom, and built all their houſes after the *French* faſhion. In each houſe are two rooms, *viz.* their bed-room, and the kitchen on the outſide before it. In the room is a ſmall oven of ſtone, covered at top with an iron plate. Their beds are near the wall, and they put no other clothes on them than thoſe which they are dreſſed in. Their other furniture and utenſils

‡ *Betula Nigra*, Linn.

* *Viburnum dentatum*, Linn.

look equally wretched. Here is a fine little church, with a ſteeple and bell. The ſteeple is raiſed pretty high, and covered with white tin plates. They pretend, that there is ſome ſimilarity between this church in its figure and diſpoſition, and the *Santa Caſa*, at *Loretto* in *Italy*, from whence this village has got its name. Cloſe to the church is a houſe built of ſtone, for the clergymen, who are two Jeſuits, that conſtantly live here. The divine ſervice is as regularly attended here as in any other Roman catholic church; and I was pleaſed with ſeeing the alacrity of the *Indians*, eſpecially of the women, and hearing their good voices, when they ſing all ſorts of hymns in their own language. The *Indians* dreſs chiefly like the other adjacent *Indian* nations; the men, however, like to wear waiſtcoats, or jackets, like the *French*. The women keep exactly to the *Indian* dreſs. It is certain, that theſe *Indians* and their anceſtors, long ſince, on being converted to the Chriſtian religion, have made a vow to God, never to drink ſtrong liquors. This vow they have kept pretty inviolable hitherto, ſo that one ſeldom ſees one of them drunk, though brandy and other ſtrong liquors are goods which other *Indians* would ſooner be killed for than part with them.

THESE *Indians* have made the *French* their patterns in ſeveral things, beſides the houſes. They all plant maize; and ſome have ſmall fields of wheat and rye. Many of them keep cows. They plant our common ſun-flower *

* Helianthus annuus.

in

in their maize-fields, and mix the ſeeds of it into their *ſagamite*, or maize-ſoup. The maize which they plant here is of the ſmall ſort, which ripens ſooner than the other: its grains are ſmaller, but give more and better flour in proportion. It commonly ripens here at the middle, ſometimes however at the end, of *Auguſt*.

THE *Swediſh* winter-wheat, and winter-rye, has been tried in *Canada*, to ſee how well it would ſucceed; for they employ nothing but ſummer-corn here, it having been found that the *French* wheat and rye dies here in winter, if it be ſown in autumn. Dr. *Sarrazin* has therefore (as I was told by the eldeſt of the two Jeſuits here) got a ſmall quantity of wheat and rye, of the winter-corn ſort, from *Sweden*. It was ſown in autumn, not hurt by the winter, and bore fine corn. The ears were not ſo large as thoſe of the *Canada* corn, but weighed near twice as much, and gave a greater quantity of finer flour than that ſummer-corn. Nobody could tell me, why the experiments have not been continued. They cannot, I am told, bake ſuch white bread here of the ſummer-corn, as they can in *France* of their winter-wheat. Many people have aſſured me, that all the ſummer-corn now employed here came from *Sweden*, or *Norway*: for the *French*, on their arrival, found the winters in *Canada* too ſevere for the *French* winter-corn, and their ſummer-corn did not always ripen, on account of the ſhortneſs of ſummer. Therefore they began to look upon *Canada* as little better than an uſeleſs country, where nobody could live; till they fell upon

the expedient of getting their ſummer-corn from the moſt northern parts of *Europe*, which has ſucceeded very well.

THIS day I returned to *Quebec*, making botanical obſervations by the way.

Auguſt 15th. THE new governor-general of all *Canada*, the marquis *de la Jonquiere*, arrived laſt night in the river before *Quebec*; but it being late, he reſerved his public entrance for to-day. He had left *France* on the ſecond of *June*, but could not reach *Quebec* before this time, on account of the difficulty which great ſhips find in paſſing the ſands in the river *St. Lawrence*. The ſhips cannot venture to go up without a fair wind, being forced to run in many bendings, and frequently in a very narrow channel. To-day was another great feaſt, on account of the Aſcenſion of the Virgin *Mary*, which is very highly celebrated in Roman catholic countries. This day was accordingly doubly remarkable, both on account of the holiday, and of the arrival of the new governor-general, who is always received with great pomp, as he repreſents a vice-roy here.

ABOUT eight o'clock the chief people in town aſſembled at the houſe of Mr. *de Vaudreuil*, who had lately been nominated governor of *Trois Rivieres*, and lived in the lower town, and whoſe father had likewiſe been governor-general of *Canada*. Thither came likewiſe the marquis *de la Galiſſonniere*, who had till now been governor-general, and was to ſail for *France* with the firſt opportunity. He was accompanied by the people belonging to the government. I was likewiſe

wiſe invited to ſee this feſtivity. At half an hour after eight the new governor-general went from the ſhip into a barge, covered with red cloth, upon which a ſignal with cannons was given from the ramparts, for all the bells in the town to be ſet a-ringing. All the people of diſtinction went down to the ſhore to ſalute the governor, who, on alighting from the barge, was received by the marquis *la Galiſſonniere.* After they had ſaluted each other, the commandant of the town addreſſed the new governor-general in a very elegant ſpeech, which he anſwered very conciſely; after which all the cannon on the ramparts gave a general ſalute. The whole ſtreet, up to the cathedral, was lined with men in arms, chiefly drawn out from among the burgheſſes. The governor-general then walked towards the cathedral, dreſſed in a ſuit of red, with abundance of gold lace. His ſervants went before him in green, carrying fire-arms on their ſhoulders. On his arrival at the cathedral he was received by the biſhop of *Canada*, and the whole clergy aſſembled. The biſhop was arrayed in his pontifical robes, and had a long gilt tiara on his head, and a great crozier of maſſy ſilver in his hand. After the biſhop had addreſſed a ſhort ſpeech to the governor-general, a prieſt brought a ſilver crucifix on a long ſtick, (two prieſts with lighted tapers in their hands, going on each ſide of it) to be kiſſed by the governor. The biſhop and the prieſts then went through the long walk up to the choir. The ſervants of the governor-general followed with their hats on, and arms on their ſhoulders. At

laſt came the governor-general and his ſuite, and after them a croud of people. At the beginning of the choir the governor-general, and the general *de la Galiſſonniere*, ſtopt before a chair covered with red cloth, and ſtood there during the whole time of the celebration of the maſs, which was celebrated by the biſhop himſelf. From the church he went to the palace, when the gentlemen of note in the town afterwards went to pay their reſpects to him. The religious of the different orders, with their reſpective ſuperiors, likewiſe came to him, to teſtify their joy on account of his happy arrival. Among the numbers that came to viſit him, none ſtaid to dine but thoſe that were invited before-hand, among which I had the honour to be. The entertainment laſted very long, and was as elegant as the occaſion required.

THE governor-general, marquis *de la Jonquiere*, was very tall, and, at that time, ſomething above ſixty years old. He had fought a deſperate naval battle with the *Engliſh* in the laſt war, but had been obliged to ſurrender, the *Engliſh* being, as it was told, vaſtly ſuperior in the number of ſhips and men. On this occaſion he was wounded by a ball, which entered one ſide of his ſhoulder, and came out at the other. He was very complaiſant, but knew how to preſerve his dignity, when he diſtributed favours.

MANY of the gentlemen, preſent at this entertainment, aſſerted that the following expedient had been ſucceſsfully employed to keep wine, beer, or water, cool during ſummer. The wine, or other liquor, is bottled; the bottles

are

are well corked, hung up in the air, and wrapped in wet clouts. This cools the wine in the bottles, notwithſtanding it was quite warm before. After a little while the clouts are again made wet, with the coldeſt water that is to be had, and this is always continued. The wine, or other liquor, in the bottles is then always colder than the water with which the clouts are made wet. And though the bottles ſhould be hung up in the ſunſhine, the above way of proceeding will always have the ſame effect *.

Auguſt 16th. The occidental *Arbor vitæ* † is a tree which grows very plentiful in *Canada*, but not much farther ſouth. The moſt ſoutherly place I have ſeen it in, is a place a little on the ſouth ſide of *Saratoga*, in the province of *New-York*, and likewiſe near *Caſſes*, in the ſame province, which places are in forty-two degrees and ten minutes north latitude.

Mr. *Bartram*, however, informed me, that he had found a ſingle tree of this kind in *Virginia*, near *the falls* in the river *James*. Doctor *Colden* likewiſe aſſerted, that he had ſeen it in many places round his ſeat *Coldingham*, which lies between *New-York*, and *Albany*, about

* It has been obſerved by ſeveral experiments, that any liquor dipt into another liquor, and then expoſed to the air for evaporation, will get a remarkable degree of cold; the quicker the evaporation ſucceeds, after repeated dippings, the greater is the cold. Therefore ſpirit of wine evaporating quicker than water, cools more than water: and ſpirit of ſal ammoniac, made by quick-lime, being ſtill more volatile than ſpirit of wine, its cooling quality is ſtill greater. The evaporation ſucceeds better by moving the veſſel containing the liquor, by expoſing it to the air, and by blowing upon it, or uſing a pair of bellows. See *de Mairan, Diſſertation ſur le Glace, Prof. Richman* in *Nov. Comment. Petrop, ad an.* 1747, & 1748. p. 284. and Dr. *Cullen* in the *Edinburgh phyſical and literary Eſſays and Obſervations*. Vol. II. p. 145. F.

† *Thuja occidentalis*, Linn.

forty-

forty-one degrees thirty minutes north latitude. The *French*, all over *Canada*, call it *Cedre blanc*. The *Engliſh* and *Dutch* in *Albany* likewiſe call it the white Cedar. The *Engliſh* in *Virginia*, have called a Thuya, which grows with them, a *Juniper*.

THE places and ſoil where it grows beſt, are not always alike, however it generally ſucceeds in ſuch ground where its roots have ſufficient moiſture. It ſeems to prefer ſwamps, marſhes, and other wet places to all others, and there it grows pretty tall. Stony hills, and places where a number of ſtones ly together, covered with ſeveral kinds of moſſes *, ſeemed to be the next in order where it grows. When the ſea ſhores were hilly and covered with moſſy ſtones, the Thuya ſeldom failed to grow on them. It is likewiſe ſeen now and then on the hills near rivers, and other high grounds, which are covered with a duſt like earth or mould; but it is to be obſerved that ſuch places commonly carry a ſouriſh water with them, or receive moiſture from the upper countries. I have however ſeen it growing in ſome pretty dry places; but there it never comes to any conſiderable ſize. It is pretty frequent in the clefts of mountains, but cannot grow to any remarkable height or thickneſs. The talleſt trees I have found in the woods in *Canada*, were about thirty or thirty-ſix feet high. A tree of exactly ten inches diameter had ninety-two rings round the ſtem †; another

* *Lichen*, *Bryum*, *Hypnum*.

† Of theſe rings or circles, it is well known all trees get but one every year, ſo that they ſerve to aſcertain the age of the tree, and the quickneſs, or ſlowneſs of its growth. F.

of

of one foot and two inches in diameter had one hundred and forty-two rings*.

The inhabitants of *Canada* generally make uſe of this tree in the following caſes. It being reckoned the moſt durable wood in *Canada*, and which beſt withſtands putrefaction, ſo as to remain undamaged for above a man's age, encloſures of all kinds are ſcarce made of any other than this wood. All the poſts which are driven into the ground, are made of the Thuya wood. The paliſades round the forts in *Canada* are likewiſe made of the ſame wood. The planks in the houſes are made of it; and the thin narrow pieces of wood which form both the ribs and the bottom of the bark boats, commonly made uſe of here, are taken from this wood, becauſe it is pliant enough for the purpoſe, eſpecially whilſt it is freſh, and likewiſe becauſe it is very light. The Thuya wood is reckoned one of the beſt for the uſe of lime-kilns. Its branches are uſed all over *Canada* for beſoms; and the twigs and leaves of it being naturally bent together, ſeem to be very proper for the purpoſe. The *Indians* make ſuch beſoms and bring them to the towns for ſale, nor do I remember having ſeen any beſoms of any other wood. The freſh branches have a peculiar, agreeable ſcent, which is pretty ſtrongly ſmelled in houſes where they make uſe of beſoms of this kind.

This Thuya is made uſe of for ſeveral medicinal purpoſes. The commandant of Fort *St.*

* The bark is not included, when I ſpeak of the diameters of theſe trees.

Frederic,

Frederic, M. *de Luſignan*, could never ſufficiently praiſe its excellence for rheumatic pains. He told me he had often ſeen it tried, with remarkable good ſucceſs, upon ſeveral perſons, in the following manner. The freſh leaves are pounded in a mortar, and mixed with hog's greaſe, or any other greaſe. This is boiled together till it becomes a ſalve, which is ſpread on linen, and applied to the part where the pain is. The ſalve gives certain relief in a ſhort time. Againſt violent pains, which move up and down in the thighs, and ſometimes ſpread all over the body, they recommend the following remedy. Take of the leaves of a kind of *Polypody** four-fifths, and of the cones of the Thuya one-fifth, both reduced to a coarſe powder by themſelves, and mixed together afterwards. Then pour milk-warm water on it, ſo as to make a poultice, which ſpread on linen, and wrap it round the body: but as the poultice burns like fire, they commonly lay a cloth between it and the body, otherwiſe it would burn and ſcorch the ſkin. I have heard this remedy praiſed beyond meaſure, by people who ſaid they had experienced its good effects. An *Iroqueſe Indian* told me, that a decoction of Thuya leaves was uſed as a remedy for the cough. In the neighbourhood of *Saratoga*, they uſe this decoction in the intermitting fevers.

The Thuya tree keeps its leaves, and is green all winter. Its ſeeds are ripe towards the end

* *Polypodium fronde pinnata, pinnis alternis ad baſin ſuperne appendiculatis.*

of

of *September*, old ſtyle. The fourth of *October* of this year, 1749, ſome of the cones, eſpecially thoſe which ſtood much expoſed to the heat of the ſun, had already dropt their ſeeds, and all the other cones were opening in order to ſhed them. This tree has, in common with many other *American* trees, the quality of growing plentiful in marſhes and thick woods, which may be with certainty called its native places. However, there is ſcarce a ſingle Thuya tree in thoſe places which bears ſeeds; if, on the other hand, a tree accidentally ſtands on the outſide of a wood, on the ſea ſhore, or in a field, where the air can freely come at it, it is always full of ſeeds. I have found this to be the caſe with the Thuya, on innumerable occaſions. It is the ſame likewiſe with the ſugar-maple, the maple which is good for healing ſcorched wounds, the white fir-tree, the pine called *Peruſſe*, the mulberry-tree and ſeveral others.

Auguſt 17th. This day I went to ſee the nunnery of the *Urſulines*, which is diſpoſed nearly in the ſame way as the two other nunneries. It lies in the town and has a very fine church. The nuns are renowned for their piety, and they go leſs abroad than any others. The men are likewiſe not allowed to go into this monaſtery, except by the ſpecial licence of the biſhop. At the deſire of the marquis *de la Galliſſonniere* the biſhop granted me leave to viſit this monaſtery together with the royal phyſician Mr. *Gaulthier*. On our arrival we were received by the abbeſs, who was attended by a great number of nuns, for the moſt part old ones.

We ſaw the church; and, it being *Sunday*, we found ſome nuns on every ſide of it kneeling by themſelves and ſaying prayers. As ſoon as we came into the church, the abbeſs and the nuns with her dropt on their knees, and ſo did M. *Gaulthier* and myſelf. We then went to an apartment or ſmall chapel dedicated to the *Virgin Mary*, at the entrance of which, they all fell on their knees again. We afterwards ſaw the kitchen, the dining hall, and the apartment they work in, which is large and fine. They do all ſorts of neat work there, gild pictures, make artificial flowers, &c. The dining hall is diſpoſed in the ſame manner as in the other two monaſteries. Under the tables are ſmall drawers for each nun to keep her napkin, knife and fork, and other things in. Their cells are ſmall, and each nun has one to herſelf. The walls are not painted; a little bed, a table with a drawer, and a crucifix, and pictures of ſaints on it, and a chair, conſtitute the whole furniture of a cell. We were then led into a room full of young ladies about twelve years old and below that age, ſent thither by their parents to be inſtructed in reading, and in matters of religion. They are allowed to go to viſit their relations once a day, but muſt not ſtay away long. When they have learnt reading, and have received inſtructions in religion, they return to their parents again. Near the monaſtery, is a fine garden, which is ſurrounded with a high wall. It belongs to this inſtitution, and is ſtocked with all ſorts of kitchen-herbs and fruit-trees. When the nuns are at work,

work, or during dinner, every thing is ſilent in the rooms, unleſs ſome one of them reads to the others; but after dinner, they have leave to take a walk for an hour in or two in the garden, or to divert themſelves within-doors. After we had ſeen every thing remarkable here, we took our leave, and departed.

ABOUT a quarter of a *Swediſh* mile to the weſt of *Quebec*, is a well of mineral waters, which carries a deal of iron ochre with it, and has a pretty ſtrong taſte. M. *Gaulthier* ſaid, that he had preſcribed it with ſucceſs in coſtive caſes and the like diſeaſes.

I HAVE been aſſured, that there are no ſnakes in the woods and fields round *Quebec*, whoſe bite is poiſonous; ſo that one can ſafely walk in the graſs. I have never found any that endeavoured to bite, and all were very fearful. In the ſouth parts of *Canada*, it is not adviſeable to be off one's guard.

A VERY ſmall ſpecies of black ants * live in ant-hills, in high grounds, in woods; they look exactly like our *Swediſh* ants, but are much leſs.

Aug. 21ſt. TO-DAY there were ſome people of three *Indian* nations in this country with the governor-general, viz. *Hurons*, *Mickmacks*, and *Anies* †; the laſt of which are a nation of *Iroqueſe*, and allies of the *Engliſh*, and were taken priſoners in the laſt war.

* *Formica nigra.* Linn.
† Probably *Onidoes.*

THE

THE *Hurons* are ſome of the ſame *Indians* with thoſe who live at *Lorette*, and have received the chriſtian religion. They are tall, robuſt people, well ſhaped, and of a copper-colour. They have ſhort black hair, which is ſhaved on the forehead, from one ear to the other. None of them wear hats or caps. Some have ear-rings, others not. Many of them have the face painted all over with vermillion; others have only ſtrokes of it on the forehead, and near the ears; and ſome paint their hair with vermillion. Red is the colour they chiefly make uſe of in painting themſelves; but I have likewiſe ſeen ſome, who had daubed their face with a black colour. Many of them have figures in the face, and on the whole body, which are ſtained into the ſkin, ſo as to be indelible. The manner of making them ſhall be deſcribed in the ſequel. Theſe figures are commonly black; ſome have a ſnake painted in each cheek, ſome have ſeveral croſſes, ſome an arrow, others the ſun, or any thing elſe their imagination leads them to. They have ſuch figures likewiſe on the breaſt, thighs, and other parts of the body; but ſome have no figures at all. They wear a ſhirt, which is either white or checked, and a ſhaggy piece of cloth, which is either blue or white, with a blue or red ſtripe below. This they always carry over their ſhoulders, or let it hang down, in which caſe they wrap it round their middle. Round their neck, they have a ſtring of violet wampums, with little white wampums between them. Theſe wampums are ſmall, of the figure of oblong pearls, and made of

of the ſhells which the *Engliſh* call clams *. At the end of the wampum ſtrings, many of the *Indians* wear a large *French* ſilver coin, with the king's effigy, on their breaſts. Others have a large ſhell on the breaſt, of a fine white colour, which they value very high, and is very dear; others, again, have no ornament at all round the neck. They all have their breaſts uncovered. Before them hangs their tobacco-pouch, made of the ſkin of an animal, and the hairy ſide turned outwards. Their ſhoes are made of ſkins, and bear a great reſemblance to the ſhoes without heels, which the women in *Finland* make uſe of. Inſtead of ſtockings, they wrap the legs in pieces of blue cloth, as I have ſeen the *Ruſſian* boors do.

The *Mickmacks* are dreſſed like the *Hurons*, but diſtinguiſh themſelves by their long ſtrait hair, of a jetty-black colour. Almoſt all the *Indians* have black ſtrait hair; however, I have met with a few, whoſe hair was pretty much curled. But it is to be obſerved, that it is difficult to judge of the true complexion of the *Canada Indians*, their blood being mixed with the *Europeans*, either by the adopted priſoners of both ſexes, or by the *Frenchmen*, who travel in the country, and often contribute their ſhare towards the encreaſe of the *Indian* families, their women not being very ſhy. The *Mickmacks* are commonly not ſo tall as the *Hurons*. I have not ſeen any *Indians* whoſe hair was as long and ſtrait as theirs. Their language is different from

* *Venus mercenaria.* Linn.

that of the *Hurons*; therefore there is an interpreter here for them on purpoſe.

THE *Anies* are the third kind of *Indians* which came hither. Fifty of them went out in the war, being allies of the *Engliſh*, in order to plunder in the neighbourhood of *Montreal*. But the *French*, being informed of their ſcheme, laid an ambuſh, and killed with the firſt diſcharge of their guns forty-four of them; ſo that only the four who were here to-day ſaved their lives, and two others, who were ill at this time. They are as tall as the *Hurons*, whoſe language they ſpeak. The *Hurons* ſeem to have a longer, and the *Anies* a rounder face. The *Anies* have ſomething cruel in their looks; but their dreſs is the ſame as that of the other *Indians*. They wear an oblong piece of white tin between the hair which lies on the neck. One of thoſe I ſaw had taken a flower of the roſe mallow, out of a garden, where it was in full bloſſom at this time, and put it among the hair at the top of his head. Each of the *Indians* has a tobacco-pipe of grey lime-ſtone, which is blackened afterwards, and has a long tube of wood. There were no *Indian* women preſent at this interview. As ſoon as the governor-general came in, and was ſeated in order to ſpeak with them, the *Mickmacks* ſat down on the ground, like *Laplanders*, but the other *Indians* took chairs.

THERE is no printing-preſs in *Canada*, tho' there formerly was one; but all books are brought from *France*, and all the orders made in the country are written, which extends even to the paper-currency. They pretend that the preſs

preſs is not yet introduced here, leſt it ſhould be the means of propagating libels againſt the government, and religion. But the true reaſon ſeems to ly in the poorneſs of the country, as no printer could put off a ſufficient number of books for his ſubſiſtence; and another reaſon may be, that *France* may have the profit ariſing from the exportation of books hither.

THE meals here are in many reſpects different from thoſe in the *Engliſh* provinces. This perhaps depends upon the difference of cuſtom, taſte, and religion, between the two nations. They eat three meals a day, *viz.* breakfaſt, dinner, and ſupper. They breakfaſt commonly between ſeven and eight. For the *French* here riſe very early, and the governor-general can be ſpoke to at ſeven o'clock, which is the time when he has his levee. Some of the men dip a piece of bread in brandy, and eat it; others take a dram of brandy, and eat a piece of bread after it. Chocolate is likewiſe very common for breakfaſt, and many of the ladies drink coffee. Some eat no breakfaſt at all. I have never ſeen tea made uſe of; perhaps becauſe they can get coffee and chocolate from the *French* provinces in *South-America*; but muſt get tea from *China*, for which it is not worth their while to ſend the money out of their country. Dinner is pretty exactly at noon. People of quality have a great variety of diſhes, and the reſt follow their example, when they invite ſtrangers. The loaves are oval, and baked of wheat flour. For each perſon they put a plate, napkin, ſpoon, and fork. Sometimes they

likewiſe give knives; but they are generally omitted, all the ladies and gentlemen being provided with their own knives. The ſpoons and forks are of ſilver, and the plates of *Delft* ware. The meal begins with a ſoup, with a good deal of bread in it. Then follow freſh meats of various kinds, boiled, and roaſted, poultry, or game, fricaſſees, ragoos, *&c.* of ſeveral ſorts; together with different kinds of ſallads. They commonly drink red claret at dinner, mixed with water; and ſpruce beer is likewiſe much in uſe. The ladies drink water, and ſometimes wine. After dinner the fruit and ſweet-meats are ſerved up, which are of many different kinds, *viz.* walnuts from *France*, or *Canada*, either ripe, or pickled; almonds, raiſins, haſelnuts, ſeveral kinds of berries, which are ripe in the ſummer ſeaſon, ſuch as currants, cran-berries, which are preſerved in treacle; many preſerves in ſugar, as ſtraw-berries, raſp-berries, black-berries, and moſs-berries. Cheeſe is likewiſe a part of the deſert, and ſo is milk, which they eat laſt of all with ſugar. Friday and Saturday they eat no fleſh, according to the Roman Catholic rites; but they well know how to guard againſt hunger. On thoſe days they boil all ſorts of kitchen-herbs, and fruit; fiſhes, eggs, and milk, prepared in various ways. They cut cucumbers into ſlices, and eat them with cream, which is a very good diſh. Sometimes they put whole cucumbers on the table, and every body that likes them takes one, peels, and ſlices it, and dips the ſlices into ſalt, eating them like raddiſhes. Melons abound here, and are always eaten

eaten with ſugar. They never put any ſugar into wine, or brandy, and upon the whole, they and the *Engliſh* do not uſe half ſo much ſugar, as we do in *Sweden*; though both nations have large ſugar-plantations in their *Weſt-Indian* poſſeſſions. They ſay no grace before, or after their meals, but only croſs themſelves, which is likewiſe omitted by ſome. Immediately after dinner, they drink a diſh of coffee, without cream. Supper is commonly at ſeven o'clock, or between ſeven and eight at night, and the diſhes the ſame as at dinner. Pudding and punch is not to be met with here, though the latter is well known.

Aug. 23d. In many places hereabouts they uſe their dogs to fetch water out of the river. I ſaw two great dogs to-day put before a little cart, one before the other. They had neat harneſs, like horſes, and bits in their mouths. In the cart was a barrel. The dogs are directed by a boy, who runs behind the cart, and as ſoon as they come to the river, they jump in, of their own accord. When the barrel is filled, the dogs draw their burthen up the hill again, to the houſe they belong to. I have frequently ſeen dogs employed in this manner, during my ſtay at *Quebec*. Sometimes they put but one dog before the water-carts, which are made ſmall on purpoſe. The dogs are not very great, hardly of the ſize of our common farmers dogs. The boys that attend them have great whips, with which they make them go on occaſionally. I have ſeen them fetch not only water, but likewiſe wood, and other things. In winter it is

cuſtomary in *Canada*, for travellers to put dogs before little ſledges, made on purpoſe to hold their cloathes, proviſions, &c. Poor people commonly employ them on their winter-journies, and go on foot themſelves. Almoſt all the wood, which the poorer people in this country fetch out of the woods in winter, is carried by dogs, which have therefore got the name of horſes of the poor people. They commonly place a pair of dogs before each load of wood. I have likewiſe ſeen ſome neat little ſledges, for ladies to ride in, in winter; they are drawn by a pair of dogs, and go faſter on a good road, than one would think. A middle-ſized dog is ſufficient to draw a ſingle perſon, when the roads are good. I have been told by old people, that horſes were very ſcarce here in their youth, and almoſt all the land-carriage was then effected by dogs. Several *Frenchmen*, who have been among the *Eſquimaux* on *Terra Labrador*, have aſſured me, that they not only make uſe of dogs for drawing drays, with their proviſions, and other neceſſaries, but are likewiſe drawn by them themſelves, in little ſledges.

Aug. 25th. The high hills, to the weſt of the town, abound with ſprings. Theſe hills conſiſt of the black lime-ſlate, before-mentioned, and are pretty ſteep, ſo that it is difficult to get to the top. Their perpendicular height is about twenty or four and twenty yards. Their ſummits are deſtitute of trees, and covered with a thin cruſt of earth, lying on the lime-ſlates, and are employed for corn-fields, or paſtures. It ſeems inconceivable therefore, from whence theſe

theſe naked hills could take ſo many running ſprings, which in ſome places guſh out of the hills, like torrents. Have theſe hills the quality of attracting the water out of the air in the day time, or at night? Or are the lime-ſlates more apt to it than others?

ALL the horſes in *Canada* are ſtrong, well made, ſwift, as tall as the horſes of our cavalry, and of a breed imported from *France*. The inhabitants have the cuſtom of docking the tails of their horſes, which is rather hard upon them here, as they cannot defend themſelves againſt the numerous ſwarms of gnats, gad-flies, and horſe-flies. They put the horſes one before the other in their carts, which has probably occaſioned the docking of their tails, as the horſes would hurt the eyes of thoſe behind them, by moving their tails backwards and forwards. The governor-general, and a few of the chief people in town, have coaches, the reſt make uſe of open horſe-chairs. It is a general complaint, that the country people begin to keep too many horſes, by which means the cows are kept ſhort of food in winter.

THE cows have likewiſe been imported from *France*, and are of the ſize of our common *Swediſh* cows. Every body agreed that the cattle, which were born of the original *French* breed, never grow up to the ſame ſize. This they aſcribe to the cold winters, during which they are obliged to put their cattle into ſtables, and give them but little food. Almoſt all the cows have horns, a few, however, I have ſeen without them. A cow without horns would be

reckoned an unheard of curioſity in *Penſylvania*. The beef and veal at *Quebec* is reckoned fatter and more palatable than at *Montreal*. Some look upon the ſalty paſtures below *Quebec* as the cauſe of this difference. In *Canada* the oxen draw with the horns, but in the *Engliſh* colonies they draw with their *withers*, as horſes do. The cows vary in colour; however, moſt of them are either red, or black.

EVERY countryman commonly keeps a few ſheep, which ſupply him with as much wool as he wants to clothe himſelf with. The better ſort of clothes are brought from *France*. The ſheep degenerate here, after they are brought from *France*, and their progeny ſtill more ſo. The want of food in winter is ſaid to cauſe this degeneration.

I HAVE not ſeen any goats in *Canada*, and I have been aſſured that there are none. I have ſeen but very few in the *Engliſh* colonies, and only in their towns, where they are kept on account of ſome ſick people, who drink the milk by the advice of their phyſicians.

THE harrows are triangular; two of the ſides are ſix feet, and the third four feet long. The teeth, and every other part of the harrows are of wood. The teeth are about five inches long, and about as much diſtant from each other.

THE proſpect of the country about a quarter of a mile *Swediſh*, north of *Quebec*, on the weſt ſide of the river *St. Lawrence*, is very fine. The country is very ſteep towards the river, and grows higher as you go farther from the water. In many places it is naturally divided into terraces.

races. From the heights, one can look a great way: *Quebec* appears very plain to the ſouth, and the river *St. Lawrence* to the eaſt, on which were veſſels ſailing up and down. To the weſt are the high mountains, which the hills of the river end with. All the country is laid out for corn-fields, meadows, and paſtures; moſt of the fields were ſown with wheat, many with white oats, and ſome with peaſe. Several fine houſes and farms are interſperſed all over the country, and none are ever together. The dwelling-houſe is commonly built of black lime-ſlates, and generally white-waſhed on the out-ſide. Many rivulets and brooks roll down the high grounds, above which the great mountains ly, and which conſiſt entirely of the black lime-ſlates, that ſhiver in pieces in the open air. On the lime-ſlates lies a mould of two or three feet in depth. The ſoil in the corn-fields is always mixed with little pieces of the lime-ſlate. All the rivulets cut their beds deep into the ground; ſo that their ſhores are commonly of lime-ſlate. A dark-grey lime-ſtone is ſometimes found among the ſtrata, which, when broke, ſmells like ſtink-ſtone.

They were now building ſeveral ſhips below *Quebec*, for the king's account. However, before my departure, an order arrived from *France*, prohibiting the further building of ſhips of war, except thoſe which were already on the ſtocks; becauſe they had found, that the ſhips built of *American* oak do not laſt ſo long as thoſe of *European* oak. Near *Quebec* is found very little oak, and what grows there is not fit for uſe, being

being very ſmall; therefore they are obliged to fetch their oak timber from thoſe parts of *Canada* which border upon *New-England*. But all the *North-American* oaks have the quality of laſting longer, and withſtanding putrefaction better, the farther north they grow, and *vice verſâ*. The timber from the confines of *New-England* is brought in floats or rafts on the rivers near thoſe parts, and near the lake *St. Pierre*, which fall into the great river *St. Lawrence*. Some oak is likewiſe brought from the country between *Montreal* and Fort *St. Frederic*, or Fort *Champlain*; but it is not reckoned ſo good as the firſt, and the place it comes from is further diſtant.

Aug. 26th. THEY ſhewed a green earth, which had been brought to the general, marquis *de la Galiſſonniere*, from the upper parts of *Canada*. It was a clay, which cohered very faſt together, and was of a green colour throughout, like verdigreaſe *.

ALL the brooks in *Canada* contain crawfiſh, of the ſame kind with ours. The *French* are fond of eating them, and ſay they are vaſtly decreaſed in number ſince they have begun to catch them.

THE common people in the country ſeem to be very poor. They have the neceſſaries of life, and but little elſe. They are content with meals of dry bread and water, bringing all other proviſions, ſuch as butter, cheeſe, fleſh, poultry, eggs, *&c.* to town, in order to get

* It was probably impregnated with particles of copper ore.

money

money for them, for which they buy clothes and brandy for themſelves, and dreſſes for their women. Notwithſtanding their poverty, they are always chearful, and in high ſpirits.

Auguſt 29th. By the deſire of the governor-general, marquis *de la Jonquiere*, and of marquis *de la Galiſſonniere*, I ſet out, with ſome *French* gentlemen, to viſit the pretended ſilver-mine, or the lead-mine, near the bay *St. Paul*. I was glad to undertake this journey, as it gave me an opportunity of ſeeing a much greater part of the country than I ſhould otherwiſe have done. This morning therefore we ſet out on our tour in a boat, and went down the river *St. Lawrence*.

The proſpect near *Quebec* is very lively from the river. The town lies very high, and all the churches and other buildings appear very conſpicuous. The ſhips in the river below ornament the landſcape on that ſide. The powder magazine, which ſtands at the ſummit of the mountain on which the town is built, towers above all the other buildings.

The country we paſſed by afforded a no leſs charming ſight. The river *St. Lawrence* flows nearly from ſouth to north here; on both ſides of it are cultivated fields, but more on the weſt ſide than on the eaſt ſide. The hills on both ſhores are ſteep and high. A number of fine hills, ſeparated from each other, large fields, which looked quite white from the corn with which they are covered, and excellent woods of deciduous trees, made the country round us look very pleaſant. Now and then we ſaw a church of ſtone, and in ſeveral places brooks fell from

the hills into the river. Where the brooks are conſiderable, there they have made ſaw-mills, and water-mills.

AFTER rowing for the ſpace of a *French* mile and a half, we came to the iſle of *Orleans*, which is a large iſland, near ſeven *French* miles and a half long, and almoſt two of thoſe miles broad, in the wideſt part. It lies in the middle of the river *St. Lawrence*, is very high, has ſteep and very woody ſhores. There are ſome places without trees, which have farm houſes below, quite cloſe to the ſhore. The iſle itſelf is well cultivated, and nothing but fine houſes of ſtone, large corn-fields, meadows, paſtures, woods of deciduous trees, and ſome churches built of ſtone, are to be ſeen on it.

WE went into that branch of the river which flows on the weſt ſide of the iſle of *Orleans*, it being the ſhorteſt. It is reckoned about a quarter of a *French* mile broad, but ſhips cannot take this road, on account of the ſand-banks, which ly here near the projecting points of land, and on account of the ſhallowneſs of the water, the rocks and ſtones at the bottom. The ſhores on both ſides ſtill kept the ſame appearance as before. On the weſt ſide, or on the continent, the hills near the river conſiſt throughout of black lime-ſlate, and the houſes of the peaſants are made of this kind of ſtone, white-waſhed on the outſide. Some few houſes are of different kinds of ſtone. The row of ten mountains, which is on the weſt ſide of the river, and runs nearly from ſouth to north, gradually comes nearer to the river: for at *Quebec* they are near

two

two *French* miles diſtant from the ſhore; but nine *French* miles lower down the river, they are almoſt cloſe to the ſhore. Theſe mountains are generally covered with woods, but in ſome places the woods have been deſtroyed by accidental fires. About eight *French* miles and a half from *Quebec*, on the weſt ſide of the river, is a church called *St. Anne*, cloſe to the ſhore. This church is remarkable, becauſe the ſhips from *France* and other parts, as ſoon as they are got ſo far up the river *St. Lawrence*, as to get ſight of it, give a general diſcharge of their artillery, as a ſign of joy, that they have paſt all danger in the river, and have eſcaped all the ſands in it.

The water had a pale red colour, and was very dirty in thoſe parts of the river which we ſaw to-day, though it was every where computed above ſix fathoms deep. Somewhat below *St. Anne*, on the weſt ſide of the river *St. Lawrence*, another river, called *le Grande Riviere*, or the *Great River*, falls in it. Its water flows with ſuch violence, as to make its way almoſt into the middle of the branch of the river *St. Lawrence*, which runs between the continent and the iſle of *Orleans*.

About two o'clock in the afternoon the tide began to flow up the river, and the wind being likewiſe againſt us, we could not proceed any farther, till the tide began to ebb. We therefore took up our night's lodging in a great farm belonging to the prieſts in *Quebec*, near which is a fine church called *St. Joachim*, after a voyage of about eight *French* miles. We were exceeding well received here. The king has given all the country

country round about this place to the ſeminary, or the prieſts at *Quebec*, who have leaſed it to farmers who have built houſes on it. Here are two prieſts, and a number of young boys, whom they inſtruct in reading, writing, and Latin. Moſt of theſe boys are deſigned for prieſts: Directly oppoſite to this farm, to the eaſtward, is the north-eaſt point, or the extremity of the iſle of *Orleans*.

All the gardens in *Canada* abound with red currant ſhrubs, which were at firſt brought over from *Europe*. They grow exceſſively well here, and the ſhrubs, or buſhes, are quite red, being covered all over with the berries.

The wild vines * grow pretty plentifully in the woods. In all other parts of *Canada* they plant them in the gardens, near arbours, and ſummer-houſes. The ſummer-houſes are made entirely of laths, over which the vines climb with their tendrils, and cover them entirely with their foliage, ſo as to ſhelter them entirely from the heat of the ſun. They are very refreſhing and cool in ſummer.

The ſtrong contrary winds obliged us to ly all night at *St. Joachim*.

Auguſt 30th. This morning we continued our journey in ſpite of the wind, which was very violent againſt us. The water in the river begins to get a brackiſh taſte, when the tide is higheſt, ſomewhat below *St. Joachim*; and the farther one goes down, the more the ſaline taſte encreaſes. At firſt the weſtern ſhore of the river

* Vitis labruſca & vulpina.

has

has fine, but low corn-fields, but ſoon after the high mountains run cloſe to the river ſide. Before they come to the river, the hilly ſhores conſiſt of black lime-ſlate; but as ſoon as the high mountains appear on the river ſide, the lime-ſlates diſappear. For the ſtone, of which the high mountains conſiſt, is a chalky rock-ſtone, mixed with glimmer and quartz *. The glimmer is black; the quartz partly violet, and partly grey. All the four conſtituent parts are ſo well mixed together, as not to be eaſily ſeparated by an inſtrument, though plainly diſtinguiſhable with the eye. During our journey to-day, the breadth of the river was generally three *French* miles. They ſhewed me the turnings the ſhips are obliged to ſail in, which ſeem to be very troubleſome, as they are obliged to bear away for either ſhore as occaſion requires, or as the rocks and ſands in the river oblige them to do.

For the diſtance of five *French* miles we had a very dangerous paſſage to go through; for the whole weſtern ſhore, along which we rowed, conſiſts of very high and ſteep mountains, where we could not have found a ſingle place to land with ſafety, during the ſpace of five miles, in caſe a high wind had ariſen. There are indeed two or three openings, or holes, in the mountains, into which one could have drawn the boat, in the greateſt danger. But they are ſo narrow, that in caſe the boat could not find them in the hurry, it would inevitably be daſhed againſt the

* Saxum micaceo quarzoſo calcarium.

rocks.

rocks. Theſe high mountains are either quite bare, or covered with ſome ſmall firs ſtanding far aſunder. In ſome places there are great clefts going down the mountains, in which trees grow very cloſe together, and are taller than on the other parts of the mountain; ſo that thoſe places look like quick-hedges, planted on the ſolid rock. Soon after we paſſed a ſmall church, and ſome farms round it. The place is called *Petite Riviere*, and they ſay its inhabitants are very poor, which ſeems very probable. They have no more land to cultivate than what lies between the mountains and the river, which in the wideſt part is not above three muſket-ſhot, and in moſt parts but one broad. About ſeventeen *French* miles from *Quebec* the water is ſo ſalty in the river that no one can drink it, our rowers therefore provided themſelves with a kettle full of freſh water this morning. About five o'clock in the evening we arrived at bay *St. Paul*, and took our lodgings with the prieſts, who have a fine large houſe here, and entertained us very hoſpitably.

Bay *St. Paul* is a ſmall pariſh, about eighteen *French* miles below *Quebec*, lying at ſome diſtance from the ſhore of a bay formed by the river, on a low plain. It is ſurrounded by high mountains on every ſide, one large gap excepted, which is over againſt the river. All the farms are at ſome diſtance from each other. The church is reckoned one of the moſt ancient in *Canada*; which ſeems to be confirmed by its bad architecture, and want of ornaments; for the walls are formed of pieces of timber, erect-

ed

ed at about two feet diſtance from each other, ſupporting the roof. Between theſe pieces of timber, they have made the walls of the church of lime-ſlate. The roof is flat. The church has no ſteeple, but a bell fixed above the roof, in the open air. Almoſt all the country in this neighbourhood belongs to the prieſts, who have leaſed it to the farmers. The inhabitants live chiefly upon agriculture, and making of tar, which laſt is ſold at *Quebec*.

This country being low, and ſituated upon a bay of the river, it may be conjectured, that this flat ground was formerly part of the bottom of the river, and formed itſelf either by a decreaſe of water in the river, or by an encreaſe of earth, which was carried upon it from the continent by the brooks, or thrown on it by ſtorms. A great part of the plants which are to be met with here are likewiſe marine; ſuch as glaſs-wort, ſea milk-wort, and ſea-ſide peaſe †. But when I have aſked the inhabitants, whether they find ſhells in the ground by digging for wells, they always anſwered in the negative. I received the ſame anſwer from thoſe who live in the low fields directly north of *Quebec*, and all agreed, that they never found any thing by digging, but different kinds of earth and ſand.

It is remarkable, that there is generally a different wind in the bay from that in the river, which ariſes from the high mountains, covered with tall woods, with which it is ſurrounded on every ſide but one. For example, when the

† *Salicornia, Glaux, Piſum maritimum.*

wind comes from the river, it ſtrikes againſt one of the mountains at the entrance of the bay, it is reflected, and conſequently takes a direction quite different from what it had before.

I FOUND ſand of three kinds upon the ſhore; one is a clear coarſe ſand, conſiſting of angulated grains of quartz, and is very common on the ſhore; the other is a fine black ſand, which I have likewiſe found in abundance on the ſhores of lake *Champlain* *, and which is common all over *Canada*. Almoſt every grain of it is attracted by the magnet. Beſides this, there is a garnet coloured ſand †, which is likewiſe very fine. This may owe its origin to the garnet coloured grains of ſands which are to be found in all the ſtones and mountains here near the ſhore. The ſand may have ariſen from the crumbled pieces of ſome ſtones, or the ſtones may have been compoſed of it. I have found both this and the black ſand on the ſhores, in ſeveral parts of this journey; but the black ſand was always the moſt plentiful.

Auguſt 31ſt. ALL the high hills in the neighbourhood ſent up a ſmoke this morning, as from a charcoal-kiln.

GNATS are innumerable here; and as ſoon as one looks out of doors, they immediately attack him; and they are ſtill worſe in the woods. They are exactly the ſame gnats as our common *Swediſh* ones, being only ſomewhat leſs than the *North-American* gnats all are. Near Fort *St.*

* See p. 199. of this volume.

† See p. 199. of this volume.

Jean,

Jean, I have likewiſe ſeen gnats which were the ſame with ours, but they were ſomewhat bigger, almoſt of the ſize of our crane-flies*. Thoſe which are here are beyond meaſure blood-thirſty. However, I comforted myſelf, becauſe the time of their diſappearance was near at hand.

This afternoon we went ſtill lower down the river *St. Lawrence*, to a place, where, we were told, there were ſilver or lead mines. Somewhat below bay *St. Paul*, we paſſed a neck of land, which conſiſts entirely of a grey, pretty compact lime-ſtone, lying in dipping, and almoſt perpendicular ſtrata. It ſeems to be merely a variety of the black lime-ſlates. The ſtrata dip to the ſouth-eaſt, and baſſet out to the north-weſt. The thickneſs of each is from ten to fifteen inches. When the ſtone is broken, it has a ſtrong ſmell, like ſtink-ſtone. We kept, as before, to the weſtern ſhore of the river, which conſiſts of nothing but ſteep mountains and rocks. The river is not above three *French* miles broad here. Now and then we could ſee ſtripes in the rock, of a fine white, looſe, ſemi-opaque ſpar. In ſome places of the river are pieces of rock as big as houſes, which had rolled from the mountains in ſpring. The places they formerly occupied are plainly to be ſeen.

By way of amuſement, I wrote down a few *Algonkin* words, which I learnt from a *Jeſuit* who has been a long time among the *Algonkins*. They call water, *mukuman*; the head, *uſtigon*; the heart, *uta*; the body, *veetras*; the foot,

* *Tipula hortorum.* Linn.

ukhita; a little boat, *uſh*; a ſhip, *nabikoan*; fire, *ſkute*; hay, *maſkoeſee*; the hare, *whabus*; (they have a verb, which expreſſes the action of hunting hares, derived from the noun); the marten, *whabiſtanis*; the elk, *mooſu** (but ſo that the final *u* is hardly pronounced); the reindeer, *atticku*; the mouſe, *mawitulſis*. The *Jeſuit* who told me thoſe particulars, likewiſe informed me, that he had great reaſon to believe, that, if any *Indians* here owed their origin to *Tataria*, he thought the *Algonkins* certainly did; for their language is univerſally ſpoken in that part of *North-America* which lies far to the weſt of *Canada*, towards *Aſia*. It is ſaid to be a very copious language; as for example, the verb *to go upon the ice*, is entirely different in the *Algonkin* from *to go upon dry land*, *to go upon the mountains*, &c.

LATE at night we arrived at *Terre d'Eboulement*, which is twenty-two *French* miles from *Quebec*, and the laſt cultivated place on the weſtern ſhore of the river *St. Lawrence*. The country lower down is ſaid to be ſo mountainous, that no body can live in it, there not being a ſingle ſpot of ground, which could be tilled. A little church, belonging to this place, ſtands on the ſhore, near the water.

* The famous *mooſe-deer* is accordingly nothing but an elk; for no one can deny the derivation of *mooſe-deer* form *mooſu*. Conſidering eſpecially, that before the *Iroqueſe* or Five Nations grew to that power, which they at preſent have all over *North-America*, the *Algonkins* were then the leading nation among the *Indians*, and their language was of courſe then a moſt univerſal language over the greater part of *North-America*; and though they have been very nearly deſtroyed by the *Iroqueſe*, their language is ſtill more univerſal in *Canada*, than any of the reſt. F.

No walnut-trees grow near this village, nor are there any kinds of them further north of this place. At bay *St. Paul*, there are two or three walnut-trees of that ſpecies which the *Engliſh* call butter-nut-trees; but they are looked upon as great rarities, and there are no others in the neighbourhood.

OAKS of all kinds, will not grow near this place, nor lower down, or further north.

WHEAT is the kind of corn which is ſown in the greateſt quantities here. The ſoil is pretty fertile, and they have ſometimes got twenty-four or twenty-ſix buſhels from one, though the harveſt is generally ten or twelve fold. The bread here is whiter than any where elſe in *Canada*.

THEY ſow plenty of oats, and it ſucceeds better than the wheat.

THEY ſow likewiſe a great quantity of peas, which yield a greater encreaſe than any corn; and there are examples of its producing an hundred fold.

HERE are but few birds; and thoſe that paſs the ſummer here, migrate in autumn; ſo that there are no other birds than ſnow-birds, red partridges, and ravens, in winter. Even crows do not venture to expoſe themſelves to the rigours of winter, but take flight in autumn.

THE *Bull-frogs* live in the pools of this neighbourhood. *Fire-flies* are likewiſe to be found here.

INSTEAD of candles, they make uſe of lamps in country places, in which the burn train oil of porpeſſes, which is the common oil here.

Where they have none of it, they ſupply its place with train-oil of ſeals.

Sept. 1ſt. THERE was a woman with child in this village, who was now in the fifty-ninth year of her age. She had not had the catamenia during eighteen years. In the year 1748, ſhe got the ſmall-pox, and now ſhe was very big. She ſaid ſhe was very well, and could feel the motions of the fœtus. She looked very well, and had her huſband alive. This being an uncommon caſe, ſhe was brought to the royal phyſician, M. *Gaulthier*, who accompanied us on this journey.

AT half an hour after ſeven this morning we went down the river. The country near *Terre d'Eboulement* is high, and conſiſts of hills of a looſe mould, which ly in three or four rows above each other, and are all well cultivated, and moſtly turned into corn-fields; though there are likewiſe meadows and paſtures.

THE great earthquake which happened in *Canada*, in *February*, 1663, and which is mentioned by *Charlevoix**, has done conſiderable damage to this place. Many hills tumbled down; and a great part of the corn-fields on the loweſt hills were deſtroyed. They ſhewed me ſeveral little iſlands, which aroſe in the river on this occaſion.

THERE are pieces of black lime-ſlate ſcattered on thoſe hills, which conſiſt of mould. For the ſpace of eight *French* miles along the ſide of the river, there is not a piece of lime-ſlate to be ſeen;

* See his *Hiſtoire de la Nouvelle France*, Tom. II. p. m. 125.

but

but inſtead of it, there are high grey mountains, conſiſting of a rock ſtone, which contains a purple and a chryſtaline quartz, mixed with lime-ſtone, and black glimmer. The roots of theſe mountains go into the water. We now begin to ſee the lime-ſlates again.

HERE are a number of Terns*, which fly about, and make a noiſe along the ſhore.

THE river is here computed at about four *French* miles broad.

ON the ſides of the river, about two *French* miles inland, there are ſuch terraces of earth as at *Terre d'Eboulement*; but ſoon after they are ſucceeded by high diſagreeable mountains.

SEVERAL brooks fall into the river here, over the ſteep ſhores, with a great noiſe. The ſhores are ſometimes ſeveral yards high, and conſiſts either of earth, or of rock-ſtone.

ONE of theſe brooks, which flows over a hill of lime-ſtone, contains a mineral water. It has a ſtrong ſmell of ſulphur, is very clear, and does not change its colour when mixed with gall-apples. If it is poured into a ſilver cup, it looks as if the cup was gilt; and the water leaves a ſediment of a crimſon colour at the bottom. The ſtones and pieces of wood, which ly in the water, are covered with a ſlime, which is pale grey at the top, and black at the bottom of the ſtone. This ſlime has not much pungency, but taſtes like oil of tobaco. My hands had a ſulphureous ſmell all day, becauſe I had handled ſome of the ſlimy ſtones.

* *Sterna hirundo*, Linn.

THE black lime-ſlate now abounds again, near the level of the water. It lies in ſtrata, which are placed almoſt perpendicularly near each other, inclining a little towards W. S. W. Each ſtratum is between ten and fifteen inches thick. Moſt of them are ſhivered into thin leaves at the top, towards the day; but in the inſide, whither neither ſun, nor air and water can penetrate, they are cloſe and compact. Some of theſe ſtones are not quite black, but have a greyiſh caſt.

ABOUT noon we arrived at *Cap aux Oyes*, or *Geeſe Cape*, which has probably got its name from the number of wild geeſe which the *French* found near it, on their firſt arrival in *Canada*. At preſent we ſaw neither geeſe, nor any kind of birds here, a ſingle raven excepted. Here we were to examine the renowned metallic veins in the mountain; but found nothing more than ſmall veins of a fine white ſpar, containing a few ſpecks of lead ore. *Cap aux Oyes* is computed twenty-two, or twenty-five *French* miles diſtant from *Quebec*. I was moſt pleaſed by finding, that moſt of the plants are the ſame as grow in *Sweden*; a proof of which I ſhall produce in the ſequel.

THE ſand-reed * grows in abundance in the ſand, and prevents its being blown about by the wind.

THE ſea-lime graſs † likewiſe abounds on the ſhores. Both it and the preceding plant are

* *Arundo arenaria* Linn.
† *Elymus arenarius* Linn.

called

called *Seigle de mer* * by the *French*. I have been aſſured that theſe plants grow in great plenty in *Newfoundland*, and on other *North-American* ſhores; the places covered with them looking, at a diſtance, like corn-fields; which might explain the paſſage in our northern accounts, of the *excellent wine-land* †, which mentions, that they had found whole fields of wheat growing wild.

THE ſea-ſide plantain ‡ is very frequent on the ſhore. The *French* boil its leaves in a broth on their ſea-voyages, or eat them as a ſallad. It may likewiſe be pickled like ſamphire.

THE bear-berries § grow in great abundance here. The *Indians*, *French*, *Engliſh*, and *Dutch*, in thoſe parts of *North-America* which I have ſeen, call them *Sagackhomi*, and mix the leaves with tobacco for their uſe.

GALE, or ſweet willow ‖, is likewiſe abundant here. The *French* call it *Laurier*, and ſome *Poivrier*. They put the leaves into their broth, to give it a pleaſant taſte.

THE ſea-rocket ¶ is, likewiſe, not uncommon. Its root is pounded, mixed with flour, and eaten here, when there is a ſcarcity of bread.

* Sea-rye.

† *Vinland det goda*, or the good wine-land, is the name which the old *Scandinavian* navigators gave to *America*, which they diſcovered long before *Columbus*. See *Torfæi Hiſtoria Vinlandiæ antiquæ ſ. partis Americæ ſeptentrionolis*. Hafniæ 1715, 4*to*. and Mr. *George Weſtmann*'s, A. M. Diſſertation on that ſubject. Abo, 1747. F.

‡ *Plantago maritima*, Linn.

§ *Arbutus uva urſi*, Linn.

‖ *Myrica gale*, Linn.

¶ *Bunias cakile*, Linn.

THE

The ſorb-tree, or mountain-aſh, the cranberry-buſh, the juniper-tree, the ſea-ſide peaſe, the *Linnæa*, and many other *Swediſh* plants, are likewiſe to be met with here.

We returned to bay *St. Paul* to-day. A grey ſeal ſwam behind the boat for ſome time, but was not near enough to be ſhot at.

Sept. 2d. This morning we went to ſee the ſilver or lead veins. They ly a little on the ſouth-ſide of the mills, belonging to the prieſts. The mountain in which the veins ly, has the ſame conſtituent parts, as the other high grey rocks in this place, viz. a rock-ſtone compoſed of a whitiſh or pale grey lime-ſtone, a purple or almoſt garnet-coloured quartz, and a black glimmer. The lime-ſtone is in greater quantities here than the other parts; and is is ſo fine as to be hardly viſible. It efferveſces very ſtrongly with *aqua fortis*. The purple or garnet-coloured quartz is next in quantity; lies ſcattered in exceeding ſmall grains, and ſtrikes fire when ſtruck with a ſteel. The little black particles of glimmer follow next; and laſt of all, the tranſparent cryſtalline ſpeckles of quartz. There are ſome ſmall grains of ſpar in the lime-ſtone. All the different kinds of ſtone are very well mixed together, except that the glimmer now and then forms little veins and lines. The ſtone is very hard; but when expoſed to ſun-ſhine and the open air, it changes ſo much as to look quite rotten, and becomes friable; and in that caſe, its conſtituent particles grow quite undiſtinguiſhable. The mountain is quite full of perpendicular clifts, in which the veins of lead-ore run from

E. S. E.

E. S. E. to W. N. W. It ſeems the mountain had formerly got cracks here, which were afterwards filled up with a kind of ſtone, in which the lead-ore was generated. That ſtone which contains the load-ore is a ſoft, white, often ſemidiaphanous ſpar, which works very eaſily. In it there are ſometimes ſtripes of a ſnowy white lime-ſtone, and almoſt always veins of a green kind of ſtone like quartz. This ſpar has many cracks, and divides into ſuch pieces as quartz; but is much ſofter, never ſtrikes fire with ſteel, does not efferveſce with acids, and is not ſmooth to the touch. It ſeems to be a ſpecies of Mr. Profeſſor *Wallerius*'s vitreſcent ſpar*. There are ſometimes ſmall pieces of a greyiſh quartz in this ſpar, which emit ſtrong ſparks of fire, when ſtruck with a ſteel. In theſe kinds of ſtone the lead-ore is lodged. It commonly lies in little lumps of the ſize of peas; but ſometimes in ſpecks of an inch ſquare, or bigger. The ore is very clear, and lies in little cubes †. It is generally very poor, a few places excepted. The veins of ſoft ſpar, and other kinds of ſtone, are very narrow, and commonly from ten to fifteen inches broad. In a few places they are twenty inches broad; and in one ſingle place twenty-two and a half. The brook which interſects the mountain towards the mills, runs down ſo deep into the mountain, that the diſtance from the ſummit of the hill, to the bottom

* See *Wallerius's* Mineralogy, *Germ.* ed. p. 87. *Forſt.* Introd. to Mineralogy, p. 13.

† It is a *cubic lead-ore*, or *lead-glance*. *Forſter*'s Introd. to Mineralogy, p. 51.

of

of the brook, is near twelve yards. Here I examined the veins, and found that they always keep the ſame breadth, not encreaſing near the bottom of the brook; and likewiſe, that they are no richer below, than at the top. From hence it may be eaſily concluded, that it is not worth while ſinking mines here. Of theſe veins there are three or four in this neighbourhood, at ſome diſtance from each other, but all of the ſame quality. The veins are almoſt perpendicular, ſometimes deviating a little. When pieces of the green ſtone before-mentioned ly in the water, a great deal of the adherent white ſpar and lime-ſtone is conſumed; but the green ſtone remains untouched. That part of the veins which is turned towards the air is always very rough, becauſe the ſun, air, and rain, have mouldered a great part of the ſpar and lime-ſtone; but the green ſtone has reſiſted their attacks. They ſometimes find deep holes in theſe veins, filled with mountain cryſtals. The greateſt quantity of lead or ſilver ore is to be found next to the rock, or even on the ſides of vein. There are now and then little grains of pyrites in the ſpar, which have a fine gold colour. The green ſtone when pounded, and put on a red-hot ſhovel, burns with a blue flame. Some ſay, they can then obſerve a ſulphureous ſmell, which I could never perceive, though my ſenſe of ſmelling is very perfect. When this green ſtone is grown quite red-hot, it looſes its green colour, and acquires a whitiſh one, but will not effervesce with *aqua fortis*.

THE

THE ſulphureous ſprings (if I may ſo call them) are at the foot of the mountain, which contains the ſilver, or lead ore. Several ſprings join here, and form a little brook. The water in thoſe brooks is covered with a white membrane, and leaves a white, mealy matter on the trees, and other bodies in its way; this matter has a ſtrong ſulphureous ſmell. Trees covered with this mealy matter, when dried and ſet on fire, burn with a blue flame, and emit a ſmell of ſulphur. The water does not change by being mixed with gall-apples, nor does it change blue paper into a different colour, which is put into it. It makes no good lather with ſoap. Silver is tarniſhed, and turns black, if kept in this water for a little while. The blade of a knife was turned quite black, after it had lain about three hours in it. It has a diſagreeable ſmell, which, they ſay, it ſpreads ſtill more in rainy weather. A number of graſshoppers were fallen into it at preſent. The inhabitants uſed this water, as a remedy againſt the itch.

IN the afternoon we ſent to ſee another vein, which had been ſpoken of as ſilver-ore. It lies about a quarter of a mile to the north-eaſt of bay *St. Paul*, near a point of land called *Cap au Corbeau*, cloſe to the ſhore of the river *St. Lawrence*. The mountain in which theſe veins ly, conſiſt of a pale red vitreſcent ſpar, a black glimmer, a pale lime-ſtone, purple or garnet-coloured grains of quartz, and ſome tranſparent quartz. Sometimes the reddiſh vitreſcent ſpar is the moſt abundant, and lies in long ſtripes of ſmall hard grains. Sometimes the fine black glimmer

glimmer abounds more than the remaining conſtituent parts; and theſe two laſt kinds of ſtone generally run in alternate ſtripes. The white lime-ſtone which conſiſts of almoſt inviſible particles, is mixed in among them. The garnet-coloured quartz grains appear here and there, and ſometimes form whole ſtripes. They are as big as pin's heads, round, ſhining, and ſtrike fire with ſteel. All theſe ſtones are very hard, and the mountains near the ſea conſiſt entirely of them. They ſometimes ly in almoſt perpendicular ſtrata, of ten or fifteen inches thickneſs. The ſtrata, however, point with their upper ends to the north-weſt, and go upwards from the river, as if the water, which is cloſe to the ſouth-eaſt ſide of the mountains, had forced the ſtrata to lean on that ſide. Theſe mountains contain very narrow veins of a white, and ſometimes of a greeniſh, fine, ſemidiaphanous, ſoft ſpar, which crumbles eaſily into grains. In this ſpar they very frequently find ſpecks, which look like a calamine blend *. Now and then, and but very ſeldom, there is a grain of lead-ore. The mountains near the ſhore conſiſt ſometimes of a black fine-grained horn-ſtone, and a ferruginous lime-ſtone. The horn-ſtone in that caſe is always in three or four times as great a quantity as the lime-ſtone.

In this neighbourhood there is likewiſe a ſulphureous ſpring, having exactly the ſame qualities as that which I have before deſcribed.

* *Forſter*'s Introd. to Mineralogy, p. 50. *Zincum ſterilum*, Linn. Syſt. Nat. III. p. 126. Ed. XII.

The broad-leaved *Reed Mace* * grows in the very ſpring, and ſucceeds extremely well. A mountain-aſh ſtood near it, whoſe berries were of a pale yellow fading colour, whereas on all other mountain-aſhes they have a deep red colour.

THEY make great quantities of tar at bay *St. Paul.* We now paſſed near a place in which they burn tar, during ſummer. It is exactly the ſame with ours in *Eaſt-Bothnia*, only ſomewhat leſs; though I have been told, that there are ſometimes very great manufactures of it here. The tar is made ſolely of the *Pin rouge* †, or red Pine. All other firs, of which here are ſeveral kinds, are not fit for this purpoſe, becauſe they do not give tar enough to repay the trouble the people are at. They make uſe of the roots alone, which are quite full of reſin, and which they dig out of the ground; and of about two yards of the ſtem, juſt above the root, laying aſide all the reſt. They have not yet learnt the art of drawing the reſin to one ſide of the tree, by peeling off the bark; at leaſt they never take this method. The tar-barrels are but about half the ſize of ours. A ton holds forty-ſix pots, and ſells at preſent for twenty-five *francs* at *Quebec*. The tar is reckoned pretty good.

THE ſand on the ſhore of the river *St Lawrence*, conſiſts in ſome places of a kind of pearl-ſand. The grains are of quartz, ſmall and

* *Typha latifolia*, Linn.

† Pinus foliis geminis longis; ramis triplici faſciculo foliorum terminatis, conis ovatis lævibus. *Flor. Canad.*

ſemidia-

ſemidiaphanous. In ſome places, it conſiſts of little particles of glimmer; and there are likewiſe ſpots, covered with the garnet-coloured ſand, which I have before deſcribed, and which abounds in *Canada*.

Sept. 4th. THE mountains hereabouts were covered with a very thick fog to-day, reſembling the ſmoak of a char coal-kiln. Many of theſe mountains are very high. During my ſtay in *Canada*, I aſked many people, who have travelled much in *North-America*, whether they ever met with mountains ſo high, that the ſnow never melts on them in winter; to which they always anſwered in the negative. They ſay that the ſnow ſometimes ſtays on the higheſt, *viz.* on ſome of thoſe between *Canada* and the *Engliſh* colonies, during a great part of the ſummer; but that it melts as ſoon as the great heat begins.

EVERY countryman ſows as much flax as he wants for his own uſe. They had already taken it up ſome time ago, and ſpread it on the fields, meadows, and paſtures, in order to bleach it. It was very ſhort this year in *Canada*.

THEY find iron-ore in ſeveral places hereabouts. Almoſt a *Swediſh* mile from bay *St. Paul*, up in the country, there is a whole mountain full of iron-ore. The country round it is covered with a thick foreſt, and has many rivulets of different ſizes, which ſeem to make the erection of iron-works very eaſy here. But the government having as yet ſuffered very much by the iron-works at *Trois Rivieres*, nobody ventures

ventures to propoſe any thing further in that way.

Sept. 5th. EARLY this morning we ſet out on our return to *Quebec*. We continued our journey at noon, notwithſtanding the heavy rain and thunder incommoded us. At that time we were juſt at *Petite Riviere*, and the tide beginning to ebb, it was impoſſible for us to come up againſt it; therefore we lay by here, and went on ſhore.

Petite Riviere is a little village, on the weſtern ſide of the river *St. Lawrence*, and lies on a little rivulet, from whence it takes its name. The houſes are built of ſtone, and are diſperſed over the country. Here is likewiſe a fine little church of ſtone. To the weſt of the village are ſome very high mountains, which cauſe the ſun to ſet three or four hours ſooner here than ordinary. The river *St. Lawrence* annually cuts off a piece of land, on the eaſt ſide of the village, ſo that the inhabitants fear they will in a ſhort time loſe all the land they poſſeſs here, which at moſt is but a muſket ſhot broad. All the houſes here are very full of children.

THE lime-ſlates on the hills are of two kinds. One is a black one, which I have often mentioned, and on which the town of *Quebec* is built. The other is generally black, and ſometimes dark grey, and ſeems to be a ſpecies of the former. It is called *Pierre à chaux* here. It is chiefly diſtinguiſhed from the former, by being cut very eaſily, giving a very white lime, when burnt, and not eaſily mouldering into

ſhivers in the air. The walls of the houſes here are entirely made of this ſlate; and likewiſe the chimnies, thoſe places excepted which are expoſed to the greateſt fire, where they place pieces of grey rock-ſtone, mixed with a deal of glimmer. The mountains near *Petite Riviere* conſiſt merely of a grey rock-ſtone, which is entirely the ſame with that which I deſcribed near the lead-mines of bay *St. Paul.* The foot of theſe mountains conſiſts of one of the lime-ſlate kinds. A great part of the *Canada* mountains of grey rock-ſtone ſtand on a kind of ſlate, in the ſame manner as the grey rocks of *Weſt-Gothland* in *Sweden.*

Sept. 6th. They catch eels and porpeſſes here, at a certain ſeaſon of the year, *viz.* at the end of *September*, and during the whole month of *October.* The eels come up the river at that time, and are caught in the manner I have before deſcribed. They are followed by the porpeſſes, which feed upon them. The greater the quantity of eels is, the greater is likewiſe the number of porpeſſes, which are caught in the following manner. When the tide ebbs in the river, the porpeſſes commonly go down along the ſides of the river, catching the eels which they find there. The inhabitants of this place therefore ſtick little twigs, or branches with leaves, into the river, in a curve line or arch, the ends of which look towards the ſhore, but ſtand at ſome diſtance from it, leaving a paſſage there. The branches ſtand about two feet diſtant from each other. When the porpeſſes come amongſt them, and perceive the ruſtling

ruſtling the water makes with the leaves, they dare not venture to proceed, fearing leſt there ſhould be a ſnare, or trap, and endeavour to go back. Mean while the water has receded ſo much, that in going back they light upon one of the ends of the arch, whoſe moving leaves frighten them again. In this confuſion they ſwim backwards and forwards, till the water is entirely ebbed off, and they ly on the bottom, where the inhabitants kill them. They give a great quantity of train-oil.

NEAR the ſhore, is a grey clay, full of ferruginous cracks, and pierced by worms. The holes are ſmall, perpendicular, and big enough to admit a middling pin. Their ſides are likewiſe ferruginous, and half-petrified; and where the clay has been waſhed away by the water, the reſt looks like ochre-coloured ſtumps of tobacco-pipe tubes.

AT noon we left *Petite Riviere*, and continued our journey towards *St. Joachim*.

BETWEEN *Petite Riviere*, which lies in a little bay, and *St. Joachim*, the weſtern ſhore of the river *St. Lawrence* conſiſts of prominent mountains, between which there are ſeveral ſmall bays. They have found, by long experience, that there is always a wind on theſe mountains, even when it is calm at *Petite Riviere*. And when the wind is pretty high at the laſt-mentioned place, it is not adviſeable to go to *Quebec* in a boat, the wind and waves, in that caſe, being very high near theſe mountains. We had at preſent an opportunity of experiencing it. In the creeks between the moun-

tains, the water was almoſt quite ſmooth; but on our coming near one of the points formed by the high mountains, the waves encreaſed, and the wind was ſo high, that two people were forced to take care of the helm, and the maſt broke ſeveral times. The waves are likewiſe greatly encreaſed by the ſtrong current near thoſe points or capes.

Sept. 7th. A LITTLE before noon, we continued our voyage from *St. Joachim.*

THEY employ tree-muſhrooms very frequently inſtead of tinder. Thoſe which are taken from the ſugar-maple are reckoned the beſt; thoſe of the red maple are next in goodneſs; and next to them, thoſe of the ſugar-birch. For want of theſe, they likewiſe make uſe of thoſe which grow on the aſp-tree or tremble.

THERE are no other ever-green trees in this part of *Canada* than the thuya, the yew, and ſome of the fir kind.

THE thuya is eſteemed for reſiſting putrefaction much longer than any other wood; and next in goodneſs to it is the pine, called *peruſſe* here.

THEY make cheeſe in ſeveral places hereabouts. That of the iſle of *Orleans* is, however, reckoned the beſt. This kind is ſmall, thin, and round; and four of them weigh about a *French* pound. Twelve of them ſell for thirty ſols. A pound of ſalt butter coſts ten ſols at *Quebec*, and of freſh butter fifteen ſols. Formerly, they could get a pound of butter for four ſols here.

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THE corn-fields towards the river are ſloping; they are ſuffered to ly fallow and to be ſown alternately. The ſown ones looked yellow at this diſtance, and the fallow ones green. The weeds are left on the latter all ſummer, for the cattle to feed upon.

THE aſh wood furniſhes the beſt hoops for tuns here; and for want of it, they take the thuya, little birch-trees, wild cherry-trees, and others.

THE hills near the river, on the weſtern ſide, oppoſite the iſle of *Orleans*, are very high and pretty ſteep. They conſiſt, in moſt part, of black lime-ſlate. There are likewiſe ſome ſpots which conſiſt of a rock-ſtone, which, at firſt ſight, looks like a ſand-ſtone, and is compoſed of grey quartz, a reddiſh lime-ſtone, a little grey lime-ſtone, and ſome pale grey grains of ſand. Theſe parts of the ſtone are ſmall and pretty equally mixed with each other. The ſtone looks red, with a greyiſh caſt, and is very hard. It lies in ſtrata, one above another. The thickneſs of each ſtratum is about five inches. It is remakable, that there are both elevated and hollow impreſſions of pectinites on the ſurface, where one likewiſe meets with the petrified ſhells themſelves; but on breaking the ſtone, it does not even contain the leaſt veſtige of an impreſſion or petrified ſhell. All the impreſſions are ſmall, about the length and breadth of an inch. The particulars of quartz in the ſtone ſtrike fire with ſteel, and the particulars of lime-ſtone effervеſce ſtrongly with *aqua-fortis*. The upper and lower ſurfaces of the

ſtrata conſiſt of lime-ſtone, and the inner parts of quartz. They break great quantities of this ſtone in order to build houſes of it, pave floors with it, and make ſtair-caſes of it. Great quantities of it are ſent to *Quebec*. It is remarkable, that there are petrifactions in this ſtone, but never any in the black lime-ſlates.

THE women dye their woollen yarn yellow with ſeeds of gale *, which is called *poivrier* here, and grows abundant in wet places.

THIS evening, M. *Gaulthier* and I went to ſee the water-fall at *Montmorenci*. The country near the river is high and level, and laid out into meadows. Above them the high and ſteep hills begin, which are covered with a cruſt of mould, and turned into corn-fields. In ſome very ſteep places, and near the rivulets, the hills conſiſt of mere black lime-ſlate, which is often crumbled into ſmall pieces, like earth. All the fields below the hills are full of ſuch pieces of lime-ſlate. In ſome more elevated places, the earth conſiſts of a pale red colour; and the lime-ſlates are likewiſe reddiſh.

THE water-fall near *Montmorenci* is one of the higheſt I ever ſaw. It is in a river whoſe breadth is not very conſiderable, and falls over the ſteep ſide of a hill, conſiſting entirely of black lime-ſlate. The fall is now at the bottom of a little creek of the river. Both ſides of the creek conſiſt merely of black lime-ſlate, which is very much cracked and tumbled down. The hill of lime-ſlate under the water-fall is quite perpendi-

* *Myrica gale.* Linn.

cular,

cular, and one cannot look at it without aſtoniſhment. The rain of the preceding days had encreaſed the water in the river, which gave the fall a grander appearance. The breadth of the fall is not above ten or twelve yards. Its perpendicular height Mr. *Gaulthier* and I gueſſed to be between a hundred and ten, and a hundred and twenty feet; and on our return to *Quebec*, we found our gueſs confirmed by ſeveral gentlemen, who had actually meaſured the fall, and found it to be nearly as we had conjectured. The people who live in the neighbourhood exaggerate in their accounts of it, abſolutely declaring that it is three hundred feet high. Father *Charlevoix* * is too ſparing, in giving it only forty feet in height. At the bottom of the fall there is always a thick fog of vapours ſpreading about the water, being reſolved into them by its violent fall. This fog occaſions almoſt perpetual rain here, which is more or leſs heavy, in proportion to its diſtance from the fall. Mr. *Gaulthier* and myſelf, together with the man who ſhewed us the way, were willing to come nearer to the falling water, in order to examine more accurately how it came down from ſuch a height, and how the ſtone behind the water looked. But, being about twelve yards off the fall, a ſudden guſt of wind blew a thick fog upon us, which, in leſs than a minute, had wet us as thoroughly as if we had walked for half an hour in a heavy ſhower. We therefore hurried away as faſt as we could. The noiſe of the

* See his *Hiſtoire de la Nouv. France*, tom. v. p. m. 100.

fall is ſometimes heard at *Quebec*, which is two *French* miles off to the ſouthward; and this is a ſign of a north-eaſt wind. At other times, it can be well heard in the villages, a good way lower to the north; and it is then reckoned an undoubted ſign of a ſouth-weſt wind, or of rain. The black lime-ſlate on the ſides of the fall lies in dipping, and almoſt perpendicular ſtrata. In theſe lime-ſlate ſtrata are the following kinds of ſtone to be met with.

Fibrous gypſum *. This lies in very thin leaves between the cracks of the lime-ſlate. Its colour is a ſnowy white. I have found it in ſeveral parts of *Canada*, in the ſame black lime-ſtone.

Pierre à Calumet. This is the *French* name of a ſtone diſpoſed in ſtrata between the lime-ſlate, and of which they make almoſt all the tobacco-pipe heads in the country. The thickneſs of the ſtrata is different. I have ſeen pieces near fifteen inches thick; but they are commonly between four and five inches thick. When the ſtone is long expoſed to the open air or heat of the ſun, it gets a yellow colour; but in the inſide it is grey. It is a lime-ſtone of ſuch a compactneſs, that its particles are not diſtinguiſhable by the naked eye. It is pretty ſoft, and will bear cutting with a knife. From this quality, the people likewiſe judge of the goodneſs of the ſtone for tobacco-pipe heads; for the hard pieces of it are not ſo fit for uſe as the ſofter

* *Gypſum amiantiforme, Waller. Min. Germ.* ed. p. 74. *Fibrous or radiated gypſum, Forſt. Introd. to Mineralogy*, p. 16.

ones.

ones. I have ſeen ſome of theſe ſtones ſhivering into thin leaves on the outſide, where they were expoſed to the ſun. All the tobacco-pipe heads, which the common people in *Canada* make uſe of, are made of this ſtone, and are ornamented in different ways. A great part of the gentry likewiſe make uſe of them, eſpecially when they are on a journey. The *Indians* have employed this ſtone for the ſame purpoſes for ſeveral ages paſt, and have taught it the *Europeans*. The heads of the tobacco-pipes are naturally of a pale grey colour; but they are blackened whilſt they are quite new, to make them look better. They cover the head all over with greaſe, and hold it over a burning candle, or any other fire, by which means it gets a good black colour, which is encreaſed by frequent uſe. The tubes of the pipes are always made of wood *.

THERE are no coals near this fall, or in the ſteep hills cloſe to it. However, the people in the neighbouring village ſhewed me a piece of coal, which, they ſaid, they had found on one of the hills about the fall.

WE arrived at *Quebec* very late at night.

Sept. 8. INTERMITTING fevers of all kinds are very rare at *Quebec*, as Mr. *Gaulthier* affirms.

* All over *Poland*, *Ruſſia*, *Turky*, and *Tartary*, they ſmoke out of pipes made of a kind of ſtone-marle, to which they fix long wooden tubes; for which latter purpoſe, they commonly employ the young ſhoots of the various kinds of *ſpiræa*, which have a kind of pith eaſily to be thruſt out. The ſtone-marle is called generally ſea-ſcum, being pretty ſoft; and by the *Tartars*, in *Crimea*, it is called *keffekil*. And as it cuts ſo eaſily, various figures are curiouſly carved in it, when it is worked into pipe-heads, which often are mounted with ſilver. F.

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On the contrary, they are very common near Fort *St. Frederic*, and near Fort *Detroit*, which is a *French* colony, between Lake *Erie* and Lake *Huron*, in forty-three degrees north latitude.

Some of the people of quality make uſe of ice-cellars, to keep beer cool in, during ſummer, and to keep freſh fleſh, which would not keep long in the great heat. Theſe ice-cellars are commonly built of ſtone, under the houſe. The walls of it are covered with boards, becauſe the ice is more eaſily conſumed by ſtones. In winter they fill it with ſnow, which is beat down with the feet, and covered with water. They then open the cellar holes and the door, to admit the cold. It is cuſtomary in ſummer to put a piece of ice into the water or wine which is to be drank.

All the ſalt which is made uſe of here is imported from *France*. They can make good ſalt here of the ſea water; but *France* keeping the ſalt trade entirely to itſelf, they do not go on with it here.

The *Eſquimaux* are a particular kind of *American* ſavages, who live only near the water, and never far in the country, on *Terra Labrador*, between the moſt outward point of the mouth of the river *St. Lawrence* and *Hudſon*'s bay. I have never had an opportunity of ſeeing one of them. I have ſpoken with many *Frenchmen* who have ſeen them, and had them on board their own veſſels. I ſhall here give a brief hiſtory of them, according to their unanimous accounts.

The *Eſquimaux* are entirely different from the *Indians* of *North-America*, in regard to their com-

complexion and their language. They are almoſt as white as *Europeans*, and have little eyes: the men have likewiſe beards. The *Indians*, on the contrary, are copper-coloured, and the men have no beards. The *Eſquimaux* language is ſaid to contain ſome *European* words *. Their houſes are either caverns or clefts in the mountains, or huts of turf above ground. They never ſow or plant vegetables, living chiefly on various kinds of whales, on ſeals †, and walruſſes ‡. Sometimes they likewiſe catch land animals, on which they feed. They eat moſt of their meat quite raw. Their drink is water; and people have likewiſe ſeen them drinking the ſea-water, which was like brine.

THEIR ſhoes, ſtockings, breeches, and jackets, are made of ſeal-ſkins well prepared, and ſewed together with nerves of whales, which may be twiſted like threads, and are very tough. Their cloaths, the hairy ſide of which is turned outwards, are ſewed together ſo well, that they can go up to their ſhoulders in the water without wetting their under cloaths. Under their upper cloaths, they wear ſhirts and waiſtcoats made of

* The *Moravian* brethren in *Greenland*, coming once over with ſome *Greenlanders* to *Terra Labrador*, the *Eſquimaux* ran away at their appearance; but they ordered one of their *Greenlanders* to call them back in his language. The *Eſquimaux* hearing his voice, and underſtanding the language, immediately ſtopped, came back, and were glad to find a countryman, and wherever they went, among the other *Eſquimaux*, they gave out, that one of their brethren was returned. This proves the *Eſquimaux* to be of a tribe different from any *European* nation, as the *Greenland* language has no ſimiliarity with any language in *Europe*. F.

† *Phoca vitulina*. Linn.

‡ *Trichechus roſmarus*. Linn.

ſeals

ſeals ſkins, prepared ſo well as to be quite ſoft. I ſaw one of their womens dreſſes; a cap, a waiſtcoat, and coat, made all of one piece of ſeal's ſkin well prepared, ſoft to the touch, and the hair on the outſide. There is a long train behind at their coats, which ſcarce reach them to the middle of the thigh before; under it they wear breeches and boots, all of one piece. The ſhirt I ſaw was likewiſe made of a very ſoft ſeal's ſkin. The *Eſquimaux* women are ſaid to be handſomer than any of the *American Indian* women, and their huſbands are accordingly more jealous in proportion.

I HAVE likewiſe ſeen an *Eſquimaux* boat. The outſide of it conſiſts entirely of ſkins, the hair of which has been taken off; and the ſides of the ſkins on which they were inſerted are turned outwards, and feel as ſmooth as vellum. The boat was near fourteen feet long, but very narrow, and very ſharp-pointed at the extremities. In the inſide of the boat they place two or three thin boards, which give a kind of form to the boat. It is quite covered with ſkins at the top, excepting, near one end, a hole big enough for a ſingle perſon to ſit and row in, and keep his thighs and legs under the deck. The figure of the hole reſembles a ſemi-circle, the baſe or diameter of which is turned towards the larger end of the boat. The hole is ſurrounded with wood, on which a ſoft folded ſkin is faſtened with ſtraps at its upper end. When the *Eſquimaux* makes uſe of his boat, he puts his legs and thighs under the deck, ſits down at the bottom of the boat, draws the ſkin before-mentioned

tioned round his body, and faſtens it well with the ſtraps; the waves may then beat over his boat with conſiderable violence, and not a ſingle drop comes into it; the clothes of the *Eſquimaux* keep the wet from him. He has an oar in his hand, which has a paddle at each end; it ſerves him for rowing with, and keeping the boat in equilibrium during a ſtorm. The paddles of the oar are very narrow. The boat will contain but a ſingle perſon. *Eſquimaux* have often been found ſafe in their boats many miles from land, in violent ſtorms, where ſhips found it difficult to ſave themſelves. Their boats float on the waves like bladders, and they row them with incredible velocity. I am told they have boats of different ſhapes. They have likewiſe larger boats of wood, covered with leather, in which ſeveral people may ſit, and in which their women commonly go to ſea.

Bows and arrows, javelins and harpoons, are their arms. With the laſt they kill whales, and other large marine animals. The points of their arrows and harpoons are ſometimes made of iron, ſometimes of bone, and ſometimes of the teeth of the walruſs. Their quivers are made of ſeals ſkins. The needles with which they ſow their cloaths are likewiſe made of iron, or of bone. All their iron they get, by ſome means or other, from the *Europeans*.

They ſometimes go on board the *European* ſhips, in order to exchange ſome of their goods for knives and other iron. But it is not adviſeable for *Europeans* to go on ſhore, unleſs they be numerous; for the *Eſquimaux* are falſe and treache-

treacherous, and cannot ſuffer ſtrangers amongſt them. If they find themſelves too weak, they run away at the approach of ſtrangers; but if they think they are an over-match for them, they kill all that come in their way, without leaving a ſingle one alive. The *Europeans*, therefore, do not venture to let a greater number of *Eſquimaux* come on board their ſhips than they can eaſily maſter. If they are ſhip-wrecked on the *Eſquimaux* coaſts, they may as well be drowned in the ſea as come ſafe to the ſhore: this many *Europeans* have experienced. The *European* boats and ſhips which the *Eſquimaux* get into their power, are immediately cut in pieces, and robbed of all nails and other iron, which they work into knives, needles, arrow-heads, &c. They make uſe of fire for no other purpoſes but working of iron, and preparing the ſkins of animals. Their meat is eaten all raw. When they come on board an *European* ſhip, and are offered ſome of the ſailors meat, they never will taſte of it till they have ſeen ſome *Europeans* eat it. Though nothing pleaſed other ſavage nations ſo much as brandy, yet many *Frenchmen* have aſſured me, that they never could prevail on the *Eſquimaux* to take a dram of it. Their miſtruſt of other nations is the cauſe of it; for they undoubtedly imagine that they are going to poiſon them, or do them ſome hurt; and I am not certain whether they do not judge right. They have no ear-rings, and do not paint the face like the *American Indians*. For many centuries paſt they have had dogs whoſe ears are erected, and never hang down. They

They make uſe of them for hunting, and inſtead of horſes in winter, for drawing their goods on the ice. They themſelves ſometimes ride in ſledges drawn by dogs. They have no other domeſtic animal. There are indeed plenty of rein-deer in their country; but it is not known that either the *Eſquimaux*, or any of the *Indians* in *America*, have ever tamed them. The *French* in *Canada*, who are in a manner the neighbours of the *Eſquimaux*, have taken a deal of pains to carry on ſome kind of trade with them, and to endeavour to engage them to a more friendly intercourſe with other nations. For that purpoſe they took ſome *Eſquimaux* children, taught them to read, and educated them in the beſt manner poſſible. The intention of the *French* was, to ſend theſe children to the *Eſquimaux* again, that they might inform them of the kind treatment the *French* had given them, and thereby incline them to conceive a better opinion of the *French*. But unhappily all the children died of the ſmall-pox, and the ſcheme was dropt. Many perſons in *Canada* doubted whether the ſcheme would have ſucceeded, though the children had been kept alive. For they ſay, there was formerly an *Eſquimaux* taken by the *French*, and brought to *Canada*, where he ſtaid a good while, and was treated with great civility. He learnt *French* pretty well, and ſeemed to reliſh the *French* way of living very well. When he was ſent back to his countrymen, he was not able to make the leaſt impreſſion on them, in favour of the *French*; but was killed by his neareſt relations, as half a *Frenchman* and foreigner.

reigner. This inhuman proceeding of the *Eſquimaux* againſt all ſtrangers, is the reaſon why none of the *Indians* of *North-America* ever give quarter to the *Eſquimaux* if they meet with them, but kill them on the ſpot; though they frequently pardon their other enemies, and incorporate the priſoners into their nation.

For the uſe of thoſe, who are fond of comparing the languages of ſeveral nations, I have here inſerted a few *Eſquimaux* words, communicated to me by the Jeſuit *Saint Pie*. One, *kombuc*; two, *tigal*; three, *ké*; four, *miſſilagat*; water, *ſillalokto*; rain, *killaluck*; heaven, *taktuck*, or *nabugakſhe*; the ſun, *ſhikonak*, or *ſakaknuk*; the moon, *takock*; an egg, *manneguk*; the boat, *kagack*; the oar, *pacotick*; the knife, *ſhavié*; a dog, *mekké*, or *timilok*; the bow, *petikſick*; an arrow, *katſo*; the head, *niakock*; the ear, *tchiu*; the eye, *killik*, or *ſhik*; the hair, *nutſhad*; a tooth, *ukak*; the foot, *itikat*. Some think that they are nearly the ſame nation with the *Greenlanders*, or *Skralingers*; and pretend that there is a great affinity in the language *.

Plumb-trees of different ſorts, brought over from *France*, ſucceed very well here. The preſent year they did not begin to flower till this month. Some of them looked very well; and I am told the winter does not hurt them.

* The above account of the *Eſquimaux* may be compared with *Henry Ellis*'s *Account of a Voyage to Hudſon*'s *Bay, by the Dobbs Galley and California*, &c. and *The Account of a Voyage for the Diſcovery of a North-Weſt Paſſage by Hudſon*'s *Streights, by the Clerk of the California. Two Vols.* 8*vo.* And laſtly, which *Crantz*'s *Hiſtory of Greenland. Two Vols.* 8*vo.* F.

Sept. 11th. THE marquis *de la Galiſſonniere* is one of the three noblemen, who, above all others, have gained high eſteem with the *French* admiralty in the laſt war. They are the marquiſſes *de la Galiſſonniere*, *de la Jonquiere*, and *de l'Etendue*. The firſt of theſe was of a low ſtature, and ſomewhat hump-backed. He has a ſurprizing knowledge in all branches of ſcience, and eſpecially in natural hiſtory; in which he is ſo well verſed, that when he began to ſpeak with me about it, I imagined I ſaw our great *Linnæus* under a new form. When he ſpoke of the uſe of natural hiſtory, of the method of learning, and employing it to raiſe the ſtate of a country, I was aſtoniſhed to ſee him take his reaſons from politics, as well as natural philoſophy, mathematics, and other ſciences. I own, that my converſation with this nobleman was very inſtructive to me; and I always drew a deal of uſeful knowledge from it. He told me ſeveral ways of employing natural hiſtory to the purpoſes of politics, and to make a country powerful, in order to depreſs its envious neighbours. Never has natural hiſtory had a greater promoter in this country; and it is very doubtful whether it will ever have his equal here. As ſoon as he got the place of governor-general, he began to take thoſe meaſures for getting information in natural hiſtory, which I have mentioned before. When he ſaw people, who had for ſome time been in a ſettled place of the country, eſpecially in the more remote parts, or had travelled in thoſe parts, he always queſtioned them about the trees, plants, earths, ſtones, ores,

animals, &c. of the place. He likewiſe enquired what uſe the inhabitants made of theſe things; in what ſtate their huſbandry was; what lakes, rivers, and paſſages there are; and a number of other particulars. Thoſe who ſeemed to have clearer notions than the reſt, were obliged to give him circumſtantial deſcriptions of what they had ſeen. He himſelf wrote down all the accounts he had received; and by this great application, ſo uncommon among perſons of his rank, he ſoon acquired a knowledge of the moſt diſtant parts of *America*. The prieſts, commandants of forts, and of ſeveral diſtant places, are often ſurprized by his queſtions, and wonder at his knowledge, when they come to *Quebec* to pay their viſits to him; for he often tells them that near ſuch a mountain, or on ſuch a ſhore, &c. where they often went a-hunting, there are ſome particular plants, trees, earths, ores, &c. for he had got a knowledge of thoſe things before. From hence it happened, that ſome of the inhabitants believed he had a preternatural knowledge of things, as he was able to mention all the curioſities of places, ſometimes near two hundred *Swediſh* miles from *Quebec*, though he never was there himſelf. Never was there a better ſtateſman than he; and nobody can take better meaſures, and chooſe more proper means for improving a country, and encreaſing its welfare. *Canada* was hardly acquainted with the treaſure it poſſeſſed in the perſon of this nobleman, when it loſt him again; the king wanted his ſervices at home, and could not leave him ſo far off. He was going to *France*

with a collection of natural curiosities; and a quantity of young trees and plants, in boxes full of earth.

The black lime-state has been repeatedly mentioned during the course of my journey. I will here give a more minute detail of it. The mountain on which *Quebec* is built, and the hills along the river *St. Lawrence*, consist of it for some miles together, on both sides of *Quebec*. About a yard from the surface, this stone is quite compact, and without any cracks; so that one cannot perceive that it is a state, its particles being imperceptible. It lies in strata, which vary from three or four inches, to twenty thick, and upwards. In the mountains on which *Quebec* is built, the strata do not ly horizontal, but dipping, so as to be nearly perpendicular; the upper ends pointing north-west, and the lower ones south-east. From hence it is, the corners of these strata always strike out at the surface into the streets, and cut the shoes in pieces. I have likewise seen some strata, inclining to the northward, but nearly perpendicular as the former. Horizontal strata, or nearly such, have occurred to me too. The strata are divided by narrow cracks, which are commonly filled with fibrous white gypsum, which can sometimes be got loose with a knife, if the layer or stratum of state above it is broken in pieces; and in that case it has the appearance of a thin white leaf. The large cracks are almost filled up with transparent quartz crystals, of different sizes. One part of the mountain contains vast quantities of these crystals, from which the corner of the mountain

which lies to the S. S. E. of the palace, has got the name of *Pointe de Diamante*, or Diamond Point. The ſmall cracks which divide the ſtone, go generally at right angles; the diſtances between them are not always equal. The outſide of the ſtratum, or that which is turned towards the other ſtratum, is frequently covered with a fine, black, ſhining membrane, which looks like a kind of a pyrous horn-ſtone. In it there is ſometimes a yellow pyrites, always lying in ſmall grains. I never found petrifactions or inpreſſions, or other kinds of ſtone in it, beſides thoſe I have juſt mentioned. Almoſt all the public and private buildings at *Quebec* conſiſt of this lime-ſlate; and likewiſe the walls round the town, and round the monaſteries and gardens. It is eaſily broken, and cut to the ſize wanted. But it has the property of ſplitting into thin ſhivers, parallel to the ſurface of the ſtratum from whence they are taken, after lying during one or more years in the air, and expoſed to the ſun. However, this quality does no damage to the walls in which they are placed; for the ſtones being laid on purpoſe into ſuch a poſition that the cracks always run horizontally, the upper ſtones preſs ſo much upon the lower ones, that they can only get craks outwardly, and ſhiver only on the outſide, without going further inwards. The ſhivers always grow thinner, as the houſes grow older.

In order to give my readers ſome idea of the climate of *Quebec*, and of the different changes of heat and cold, at the ſeveral ſeaſons of the year, I will here inſert ſome particulars extracted from

from the meteorological obſervations, of the royal phyſician, Mr. *Gaulthier:* he gave me a copy of thoſe which he had made from *October* 1744, to the end of *September* 1746. The thermometrical obſervations I will omit, becauſe I do not think them accurate; for as Mr. *Gaulthier* made uſe of *de la Hire*'s thermometer, the degrees of cold cannot be exactly determined, the quickſilver being depreſſed into the globe at the bottom, as ſoon as the cold begins to be conſiderable. The obſervations are made throughout the year, between ſeven and eight in the morning, and two and three in the afternoon. He has ſeldom made any obſervations in the afternoon. His thermometer was likewiſe inaccurate, by being placed in a bad ſituation.

The year 1745.

Jan. THE 29th of this month the river *St. Lawrence* was covered over with ice, near *Quebec.* In the obſervations of other years, it is obſerved, that the river is ſometimes covered with ice in the beginning of *January*, or the end of *December.*

Feb. NOTHING remarkable happened during the courſe of this month.

March. THEY ſay this has been the mildeſt winter they ever felt; even the eldeſt perſons could not remember one ſo mild. The ſnow was only two feet deep, and the ice in the river, oppoſite *Quebec*, had the ſame thickneſs. On the twenty-firſt there was a thunder-ſtorm, which fell upon a ſoldier, and hurt him very

much. On the 19th and 20th, they began to make incifions into the fugar-maple, and to prepare fugar from its juice.

April. During this month they continued to extract the juice of the fugar-maple, for making fugar. On the 7th the gardeners began to make hot-beds. On the 20th the ice in the river broke looſe near *Quebec*, and went down; which rarely happens ſo ſoon; for the river *St. Lawrence* is ſometimes covered with ice oppoſite *Quebec*, on the 10th of *May*. On the 22d, and 23d, there fell a quantity of ſnow. On the 25th they began to ſow near *St. Joachim*. The ſame day they ſaw ſome ſwallows. The 29th they ſowed corn all over the country. Ever ſince the 23d the river had been clear at *Quebec*.

May. The third of this month the cold was ſo great in the morning, that *Celſius*'s or the *Swediſh* thermometer, was four degrees below the freezing point; however, it did not hurt the corn. On the 16th all the ſummer-corn was ſown. On the 5th the *Sanguinaria*, *Narciſſus*, and violet, began to blow. The 17th the wild cherry-trees, raſberry-buſhes, apple-trees, and lime-trees, began to expand their leaves. The ſtrawberries were in flower about that time. The 29th the wild cherry-trees were in bloſſom. On the 26th part of the *French* apple-trees, cherry-trees, and plum-trees, opened their flowers.

June. The 5th of this month all the trees had got leaves. The apple-trees were in full flower. Ripe ſtraw-berries were to be had on the

the 22d. Here it is noted, that the weather was very fine for the growth of vegetables.

July. THE corn began to ſhoot into ears on the 12th, and had ears every where on the 21ſt. (It is to be obſerved, that they ſow nothing but ſummer-corn here) Soon after the corn began to flower. Hay-making began the 22d. All this month the weather was excellent.

Aug. ON the 12th there were ripe pears and melons at *Montreal.* On the 20th the corn was ripe round *Montreal,* and the harveſt was begun there. On the 22d the harveſt began at *Quebec.* On the 30th, and 31ſt, there was a very ſmall hoar-froſt on the ground.

Sept. THE harveſt of all kinds of corn ended on the 24th and 25th. Melons, water-melons, cucumbers, and fine plums, were very plentiful during the courſe of this month. Apples and pears were likewiſe ripe, which is not always the caſe. On the laſt days of this month they began to plough the land. The following is one of the obſervations of this month: "The "old people in this country ſay, that the corn "was formerly never ripe till the 15th or 16th "of *September*, and ſometimes on the 12th; "but no ſooner. They likewiſe aſſert, that it "never was perfectly ripe. But ſince the woods "have been ſufficiently cleared, the beams of "the ſun have had more room to operate, and "the corn ripens ſooner than before *." It

* It is not only the clearing of woods, but cultivation, and population, that alter the climate of a country, and make it mild. The *Romans* looked upon the winters of *Germany* and *England* as very

is further remarked, that the hot ſummers are always very fruitful in *Canada*, and that moſt of the corn has hardly ever arrived at perfect maturity.

Oct. DURING this month the fields were ploughed, and the weather was very fine all the time. There was a little froſt for ſeveral nights,

very ſevere, but happily both countries have at preſent a much more mild climate than formerly, owing to the three above-mentioned reaſons. Near *Peterſburg*, under ſixty degrees north latitude, the river *Neva* was covered with ice 1765, in the beginning of *December* and cleared of it *April* the 11th 1766. At *Tſaritſin*, which is under forty-eight degrees forty minutes north latitude, the river *Velga* was covered with ice the 26th of *November* 1765, and the ice broke in the river *April* the 27th 1766, (all old ſtile). Is it not almoſt incredible, that in a place very near twelve degrees more to the ſouth, the effects of cold ſhould be felt longer, and more ſeverely, than in the more northern climate? And tho' the neighbourhood of *Peterſburg* has a great many woods, the cold was, however, leſs ſevere, and laſting; *Tſaritſin*, on the contrary, has no woods for many hundred miles in its neighbourhood, if we except ſome few trees and buſhes along the *Volga*, and its iſles, and the low land along it. Wherever the eye looks to the eaſt, there are vaſt plains without woods, for many hundred miles. The clearing a country of woods, cannot therefore alone contribute ſo much to make the climate milder. But cultivation does more. On a ploughed field the ſnow will always ſooner melt, than on a field covered with graſs. The inflammable warm particles brought into the field, by the various kinds of manure, contribute much to ſoften the rigours of the climate; but the exhalations of thouſands of men and cattle, in a populous country, the burning of ſo many combuſtibles, and the diſperſion of ſo many cauſtic particles, thro' the whole atmoſphere; theſe are things which contribute ſo much towards ſoftening the rigours of a climate. In a hundred ſquare miles near *Tſaritſin*, there is not ſo much cultivated land as there is within ten near *Peterſburg*; it is in proportion to the number of the inhabitants of both places, and this makes the chief difference of the climate. There is ſtill another conſideration, *Peterſburg* lies near the ſea, and *Tſaritſin* in an inland country; and, generally ſpeaking, countries near the ſea have been obſerved to enjoy a milder climate. Theſe few remarks will be, I believe, ſufficient to enable every body to judge of the changes of the climate in various countries, which, no doubt, grow warmer and more temperate, as cultivation and population increaſe. F.

and

and on the 28th it ſnowed. Towards the end of this month the trees began to ſhed their leaves.

Nov. THEY continued to plough till the 10th of this month, when the trees had ſhed all their leaves. Till the 18th the cattle went out of doors, a few days excepted, when bad weather had kept them at home. On the 16th there was ſome thunder and lightning. There was not yet any ice in the river *St. Lawrence* on the 24th.

Dec. DURING this month it is obſerved, that the autumn has been much milder than uſual. On the 1ſt a ſhip could ſtill ſet ſail for *France*; but on the 16th the river *St. Lawrence* was covered with ice on the ſides, but open in the middle. In the river *Charles* the ice was thick enough for horſes with heavy loads to paſs over it. On the 26th the ice in the river *St. Lawrence* was waſhed away by a heavy rain; but on the 28th part of that river was again covered with ice.

THE next obſervations ſhew, that the winter has likewiſe been one of the mildeſt. I now reſume the account of my own journey.

THIS evening I left *Quebec* with a fair wind. The governor-general of *Canada*, the marquis *de la Jonquiere*, ordered one of the king's boats, and ſeven men, to bring me to *Montreal*. The middle of the boat was covered with blue cloth, under which we were ſecured from the rain. This journey I made at the expence of the *French* king. We went three *French* miles to-day.

Sept.

Sept. 12. We continued our journey during all this day.

The ſmall kind of maize, which ripens in three months time, was ripe about this time, and the people drew it out of the ground, and hung it up to dry.

The weather about this time was like the beginning of our *Auguſt*, old ſtile. Therefore it ſeems autumn commences a whole month later in *Canada*, than in the midſt of *Sweden*.

Near each farm there is a kitchen-garden, in which onions are moſt abundant; becauſe the *French* farmers eat their dinners of them with bread, on Fridays and Saturdays, or faſting days. However, I cannot ſay, the *French* are ſtrict obſervers of faſting; for ſeveral of my rowers ate fleſh to-day, though it was Friday. The common people in *Canada* may be ſmelled when one paſſes by them, on account of their frequent uſe of onions. Pumpions are likewiſe abundant in the farmers gardens. They dreſs them in ſeveral ways, but the moſt common is to cut them through the middle, and place the inſide of the hearth, towards the fire, till it is quite roaſted. The pulp is then cut out of the peel, and eaten; people above the vulgar put ſugar to it. Carrots, ſallad, *French* beans, cucumbers, and currant ſhrubs, are planted in every farmer's little kitchen-garden.

Every farmer plants a quantity of tobacco near his houſe, in proportion to the ſize of his family. It is likewiſe very neceſſary that they ſhould plant tobacco, becauſe it is ſo univerſally ſmoaked by the common people. Boys of ten

or

or twelve years of age run about with the pipe in their mouths, as well as the old people. Perſons above the vulgar do not refuſe to ſmoak a pipe now and then. In the northern parts of *Canada*, they generally ſmoak tobacco by itſelf; but further upwards, and about *Montreal*, they take the inner bark of the red Cornelian cherry *, cruſh it, and mix it with the tobacco, to make it weaker. People of both ſexes, and of all ranks, uſe ſnuff very much. Almoſt all the tobacco which is conſumed here is the produce of the country, and ſome people prefer it even to *Virginian* tobacco: but thoſe who pretend to be connoiſſeurs, reckon the laſt kind better than the other.

THOUGH many nations imitate the *French* cuſtoms; yet I obſerved, on the contrary, that the *French* in *Canada*, in many reſpects, follow the cuſtoms of the *Indians*, with whom they converſe every day. They make uſe of the tobacco-pipes, ſhoes, garters, and girdles, of the *Indians*. They follow the *Indian* way of making war with exactneſs; they mix the ſame things with tobacco; they make uſe of the *Indian* bark-boats, and row them in the *Indian* way; they wrap ſquare pieces of cloth round their feet inſtead of ſtockings, and have adopted many other *Indian* faſhions. When one comes into the houſe of a *Canada* peaſant, or farmer, he gets up, takes his hat off to the ſtranger, deſires him to ſit down, puts his hat on, and ſits down again. The gentlemen and ladies, as well as the pooreſt pea-

* *Cornus ſanguinea*, Linn.

ſants

ſants and their wives, are called *Monſieur* and *Madame*. The peaſants, and eſpecially their wives, wear ſhoes, which conſiſt of a piece of wood hollowed out, and are made almoſt as ſlippers. Their boys, and the old peaſants themſelves, wear their hair behind in a cue; and moſt of them wear red woollen caps at home, and ſometimes on their journies.

THE farmers prepare moſt of their diſhes of milk. Butter is but ſeldom ſeen, and what they have is made of ſour cream, and therefore not ſo good as *Engliſh* butter. Many of the *French* are very fond of milk, which they eat chiefly on faſting days. However, they have not ſo many methods of preparing it as we have in *Sweden*. The common way was to boil it, and put bits of bread, and a good deal of ſugar, into it. The *French* here eat near as much fleſh as the *Engliſh*, on thoſe days when their religion allows it. For excepting the ſoup, the ſallads, and the deſert, all their other diſhes conſiſt of fleſh variouſly prepared.

AT night we lay at a farm-houſe, near a river called *Petite Riviere*, which falls here into the river *St. Lawrence*. This place is reckoned ſixteen *French* miles from *Quebec*, and ten from *Trois Rivieres*. The tide is ſtill conſiderable here. Here is the laſt place where the hills, along the river, conſiſt of black lime-ſlate; further on they are compoſed merely of earth.

FIRE-FLIES flew about the woods at night, though not in great numbers; the *French* call them *Mouches à feu*.

THE

THE houſes in this neighbourhood are all made of wood. The rooms are pretty large. The inner roof reſts on two, three, or four, large thick ſpars, according to the ſize of the room. The chinks are filled with clay, inſtead of moſs. The windows are made entirely of paper. The chimney is erected in the middle of the room; that part of the room which is oppoſite the fire, is the kitchen; that which is behind the chimney, ſerves the people to ſleep, and receive ſtrangers in. Sometimes there is an iron ſtove behind the chimney.

Sept. 13th. NEAR *Champlain*, which is a place about five *French* miles from *Trois Rivieres*, the ſteep hills near the river conſiſt of a yellow, and ſometimes ochre-coloured ſandy earth, in which a number of ſmall ſprings ariſe. The water in them is generally filled with yellow ochre, which is a ſign, that theſe dry ſandy fields contain a great quantity of the ſame iron ore, which is dug at *Trois Rivieres*. It is not conceiveable from whence that number of ſmall rivulets takes their riſe, the ground above being flat, and exceeding dry in ſummer. The lands near the river are cultivated for about an *Engliſh* mile into the country; but behind them there are thick foreſts, and low grounds. The woods, which collect a quantity of moiſture, and prevent the evaporation of the water, force it to make its way under ground to the river. The ſhores of the river are here covered with a great deal of black iron-ſand.

TOWARDS evening we arrived at *Trois Rivieres*, where we ſtaid no longer, than was neceſſary

ceſſary to deliver the letters, which we brought with us from *Quebec*. After that we went a *French* mile higher up, before we took our night's lodging.

THIS afternoon we ſaw three remarkable old people. One was an old Jeſuit, called father *Joſeph Aubery*, who had been a miſſionary to the converted *Indians* of *St. François*. This ſummer he ended the fiftieth year of his miſſion. He therefore returned to *Quebec*, to renew his vows there; and he ſeemed to be healthy, and in good ſpirits. The other two people were our landlord and his wife; he was above eighty years of age, and ſhe was not much younger. They had now been fifty-one years married. The year before, at the end of the fiftieth year of their marriage, they went to church together, and offered up thanks to God Almighty for the great grace he gave them. They were yet quite well, content, merry, and talkative. The old man ſaid, that he was at *Quebec* when the *Engliſh* beſieged it, in the year 1690, and that the biſhop went up and down the ſtreets, dreſſed in his pontifical robes, and a ſword in his hand, in order to recruit the ſpirits of the ſoldiers.

THIS old man ſaid, that he thought the winters were formerly much colder than they are now. There fell likewiſe a greater quantity of ſnow, when he was young. He could remember the time when pumpions, cucumbers, *&c.* were killed by the froſt about mid-ſummer, and he aſſured me, that the ſummers were warmer

mer now than they uſed to be formerly. About thirty and ſome odd years ago, there was ſuch a ſevere winter in *Canada*, that the froſt killed many birds; but the old man could not remember the particular year. Every body allowed, that the ſummers in 1748, and 1749, had been warmer in *Canada* than they have been many years ago.

THE ſoil is reckoned pretty fertile; and wheat yields nine or ten grains from one. But when this old man was a boy, and the country was new and rich every where, they could get twenty, or four-and-twenty, grains from one. They ſow but little rye here; nor do they ſow much barley, except for the uſe of cattle. They complain, however, that when they have a bad crop, they are obliged to bake bread of barley.

Sept. 14th. THIS morning we got up early, and purſued our journey. After we had gone about two *French* miles, we got into Lake *St. Pierre*, which we croſſed. Many plants, which are common in our *Swediſh* Lakes, ſwim at the top of this water. This Lake is ſaid to be covered every winter with ſuch ſtrong ice, that a hundred loaded horſes could go over it together with ſafety.

A CRAW-FISH, or river lobſter, ſomewhat like a crab, but quite minute, about two geometrical lines long, and broad in proportion, was frequently drawn up by us with the aquatic weeds. Its colour is a pale greeniſh white.

THE

THE cordated *Pontederia* * grows plentiful on the ſides of a long and narrow canal of water, in the places frequented by our water-lillies †. A great number of hogs wade far into this kind of ſtrait, and ſometimes duck the greateſt part of their bodies under water, in order to get at the roots, which they are very fond of.

As ſoon as we were got through Lake *St. Pierre*, the face of the country was entirely changed, and became as agreeable as could be wiſhed. The iſles, and the land on both ſides of us, looked like the prettieſt pleaſure-gardens; and this continued till near *Montreal*.

NEAR every farm on the river-ſide there are ſome boats, hollowed out of the trunks of ſingle trees, but commonly neat and well made, having the proper ſhape of boats. In one place I ſaw a boat made of the bark of trees.

Sept. 15th. WE continued our journey early this morning. On account of the ſtrength of the river, which came down againſt us, we were ſometimes obliged to let the rowers go on ſhore, and draw the boat.

AT four o'clock in the evening we arrived at *Montreal*; and our voyage was reckoned a happy one, becauſe the violence of the river flowing againſt us all the way, and the changeableneſs of the winds, commonly protract it to fourteen days.

Sept. 19th. SEVERAL people here in town have got the *French* vines, and planted them in

* *Pontederia cordata.* Linn.
† *Nymphæa.*

their

their gardens. They have two kinds of grapes, one of a pale green, or almoſt white; the other, of a reddiſh brown colour. From the white ones they ſay, white wine is made; and from the red ones, red wine. The cold in winter obliges them to put dung round the roots of the vines, without which they would be killed by the froſt. The grapes began to be ripe in theſe days; the white ones are a little ſooner ripe than the red ones. They make no wine of them here, becauſe it is not worth while; but they are ſerved up at deſerts. They ſay theſe grapes do not grow ſo big here as in *France*.

WATER-MELONS * are cultivated in great plenty in the *Engliſh* and *French American* colonies; and there is hardly a peaſant here, who has not a field planted with them. They are chiefly cultivated in the neighbourhood of towns; and they are very rare in the north part of *Canada*. The *Indians* plant great quantities of water-melons at preſent; but whether they have done it of old is not eaſily determined. For an old *Onidoe Indian* (of the ſix *Iroqueſe* nations) aſſured me, that the *Indians* did not know water-melons before the *Europeans* came into the country, and communicated them to the *Indians*. The *French*, on the other hand, have aſſured me, that the *Illinois Indians* have had abundance of this fruit, when the *French* firſt came to them; and that they declare, they had planted them ſince times immemorial. However, I do not remember having read that the

* *Cucurbita citrullus*. Linn.

Europeans, who firſt came to *North-America*, mention the water-melons, in ſpeaking of the diſhes of the *Indians* at that time. How great the ſummer heat is in thoſe parts of *America* which I have paſſed through, can eaſily be conceived, when one conſiders, that in all thoſe places, they never ſow water-melons in hot-beds, but in the open fields in ſpring, without ſo much as covering them, and they ripen in time. Here are two ſpecies of them, viz. one with a red pulp, and one with a white one. The firſt is more common to the ſouthward, with the *Illinois*, and in the *Engliſh* colonies; the laſt is more abundant in *Canada*. The ſeeds are ſown in ſpring, after the cold is entirely gone off, in a good rich ground, at ſome diſtance from each other; becauſe their ſtalks ſpread far, and require much room, if they ſhall be very fruitful. They were now ripe at *Montreal*; but in the *Engliſh* colonies they ripen in *July* and *Auguſt*. They commonly require leſs time to ripen in, than the common melons. Thoſe in the *Engliſh* colonies are commonly ſweeter, and more agreeable, than the *Canada* ones. Does the greater heat contribute any thing towards making them more palatable? Thoſe in the province of *New-York* are, however, reckoned the beſt.

The water-melons are very juicy; and the juice is mixed with a cooling pulp, which is very good in the hot ſummer-ſeaſon. Nobody in *Canada*, in *Albany*, and in other parts of *New-York*, could produce an example, that the eating of water-melons in great quantities had hurt

hurt any body; and there are examples even of ſick perſons eating them without any danger. Further to the ſouth, the frequent uſe of them it is thought brings on intermitting fevers, and other bad diſtempers, eſpecially in ſuch people as are leſs uſed to them. Many *Frenchmen* aſſured me, that when people born in *Canada* came to the *Illinois*, and eat ſeveral times of the water-melons of that part, they immediately got a fever; and therefore the *Illinois* adviſe the *French* not to eat of a fruit ſo dangerous to them. They themſelves are ſubject to be attacked by fevers, if they cool their ſtomachs too often with water-melons. In *Canada* they keep them in a room, which is a little heated; by which means they will keep freſh two months after they are ripe; but care muſt be taken, that the froſt ſpoil them not. In the *Engliſh* plantations they likewiſe keep them freſh in dry cellars, during part of the winter. They aſſured me that they keep better when they are carefully broke off from the ſtalk, and afterwards burnt with a red-hot iron, in the place where the ſtalk was faſtened. In this manner they may be eaten at *Chriſtmas*, and after. In *Penſylvania*, where they have a dry ſandy earth, they make a hole in the ground, put the water-melons carefully into it with their ſtalks, by which means they keep very freſh during a great part of winter. Few people, however, take this trouble with the water-melons; becauſe they being very cooling, and the winter being very cold too, it ſeems to be leſs neceſſary to keep them for eating in that ſeaſon, which is

already very cold. They are of opinion in theſe parts, that cucumbers cool more than water-melons. The latter are very ſtrongly diuretic. The *Iroqueſe* call them *Onoheſerakatee*.

GOURDS of ſeveral kinds, oblong, round, flat or compreſſed, crook-necked, ſmall, *&c.* are planted in all the *Engliſh* and *French* colonies. In *Canada*, they fill the chief part of the farmers kitchen-gardens, though the onions came very near up with them. Each farmer in the *Engliſh* plantations, has a large field planted with gourds, and the *Germans*, *Swedes*, *Dutch*, and other *Europeans*, ſettled in their colonies, plant them. Gourds are a conſiderable part of the *Indian* food; however, they plant more ſquaſhes than common gourds. They declare, that they have had gourds long before the *Europeans* diſcovered *America*; which ſeems to be confirmed by the accounts of the firſt *Europeans* that came into theſe parts, who mentioned gourds as common food among the *Indians*. The *French* here call them *citrouilles*, and the *Engliſh* in the colonies, *pumpkins*. They are planted in ſpring, when they have nothing to fear from the froſt, in an encloſed field, and a good rich ſoil. They are likewiſe frequently put into old hot-beds. In *Canada*, they ripen towards the beginning of *September*, but further ſouthward they are ripe at the end of *July*. As ſoon as the cold weather commences, they take off all the pumpions that remain on the ſtalk, whether ripe or not, and ſpread them on the floor, in a part of the houſe, where the unripe ones grow perfectly ripe, if they are not laid

one

one upon the other. This is done round *Montreal* in the middle of *September*; but in *Penſylvania*, I have ſeen ſome in the fields on the 19th of *October*. They keep freſh for ſeveral months, and even throughout the winter, if they be well ſecured in dry cellars (for in damp ones they rot very ſoon) where the cold cannot come in, or, which is ſtill better, in dry rooms which are heated now and then, to prevent the cold from damaging the fruit.

PUMPIONS are prepared for eating in various ways. The *Indians* boil them whole, or roaſt them in aſhes, and eat them then, or go to ſell them thus prepared in the towns, and they have, indeed, a very fine flavour, when roaſted. The *French* and *Engliſh* ſlice them, and put the ſlices before the fire to roaſt; when they are roaſted, they generally put ſugar on the pulp. Another way of roaſting them, is to cut them through the middle, take out all the ſeeds, put the halves together again, and roaſt them in an oven. When they are quite roaſted, ſome butter is put in, whilſt they are warm, which being imbibed into the pulp, renders it very palatable. They often boil pumpions in water, and afterwards eat them, either alone or with fleſh. Some make a thin kind of pottage of them, by boiling them in water, and afterwards macerating the pulp. This is again boiled with a little of the water, and a good deal of milk, and ſtirred about whilſt it is boiling. Sometimes the pulp is ſtamped and kneaded into dough, with maize flour or other flour; of this they make cakes. Some make puddings and

tarts of gourds. The *Indians*, in order to preſerve the pumpions for a very long time, cut them in long ſlices, which they faſten or twiſt together, and dry them either by the ſun, or by the fire in a room. When they are thus dried, they will keep for years together, and when boiled, they taſte very well. The *Indians* prepare them thus at home and on their journies, and from them the *Europeans* have adopted this method. Sometimes they do not take the time to boil it, but eat it dry with hung-beef, or other fleſh; and I own they are eatable in that ſtate, and very welcome to a hungry ſtomach. They ſometimes preſerve them in the following manner at *Montreal*. They cut a pumpion in four pieces, peel them, and take the ſeeds out of them. The pulp is put in a pot with boiling water, in which it muſt boil from four to ſix minutes. It is then put into a cullender, and left in it till the next day, that the water may run off. When it is mixed with cloves, cinnamon, and ſome lemon peel, preſerved in ſyrup, and there muſt be an equal quantity of ſyrup and of the pulp. After which it is boiled together, till the ſyrup is entirely imbibed, and the white colour of the pulp is quite loſt.

Sept. 20th. THE corn of this year's harveſt in *Canada*, was reckoned the fineſt they had ever had. In the province of *New-York*, on the contrary, the crop was very poor. The autumn was very fine this year in *Canada*.

Sept. 22d. THE *French* in *Canada* carry on a great trade with the *Indians*; and though it was formerly the only trade of this extenſive country,

country, yet its inhabitants were conſiderably enriched by it. At preſent, they have beſides the *Indian* goods, ſeveral other articles which are exported from hence. The *Indians* in this neighbourhood, who go hunting in winter like the other *Indian* nations, commonly bring their furs and ſkins to ſale in the neighbouring *French* towns; however this is not ſufficient. The *Indians* who live at a greater diſtance, never come to *Canada* at all; and, leſt they ſhould bring their goods to the *Engliſh*, as the *Engliſh* go to them, the *French* are obliged to undertake journies, and purchaſe the *Indian* goods in the country of the *Indians*. This trade is chiefly carried on at *Montreal*, and a great number of young and old men, every year undertake long and troubleſome voyages for that purpoſe, carrying with them ſuch goods as they know the *Indians* like, and are in want of. It is not neceſſary to take money on ſuch a journey, as the *Indians* do not value it; and indeed I think the *French*, who go on theſe journies, ſcarce ever take a ſol or penny with them.

I WILL now enumerate the chief goods which the *French* carry with them for this trade, and which have a good run among the *Indians*.

Muſkets, *Powder*, *Shot*, and *Balls*. The *Europeans* have taught the *Indians* in their neighbourhood the uſe of fire-arms, and they have laid aſide their bows and arrows, which were formerly their only arms, and make uſe of muſkets. If the *Europeans* ſhould now refuſe to ſupply the *Indians* with muſkets, they would be ſtarved to death; as almoſt all their food conſiſts

of the flesh of the animals, which they hunt; or they would be irritated to such a degree as to attack the *Europeans*. The *Indians* have hitherto never tried to make muskets or similar fire-arms; and their great indolence does not even allow them to mend those muskets which they have got. They leave this entirely to the *Europeans*. As the *Europeans* came into *North-America*, they were very careful not to give the *Indians* any fire-arms. But in the wars between the *French* and *English*, each party gave their *Indian* allies fire-arms, in order to weaken the force of the enemy. The *French* lay the blame upon the *Dutch* settlers in *Albany*, saying, that they began, in 1642, to give their *Indians* fire-arms, and taught them the use of them, in order to weaken the *French*. The inhabitants of *Albany*, on the contrary, assert, that the *French* first introduced this custom, as they would have been too weak to resist the combined force of the *Dutch* and *English* in the colonies. Be this as it will, it is certain that the *Indians* buy muskets from the *Europeans*, and know at present better how to make use of them, than some of their teachers. It is likewise certain, that the *Europeans* gain considerably by their trade in muskets and ammunition.

Pieces of white cloth, or of a coarse uncut cloth. The *Indians* constantly wear such pieces of cloth, wrapping them round their bodies. Sometimes they hang them over their shoulders; in warm weather, they fasten them round the middle; and in cold weather, they put them over the head. Both their men and women wear

wear theſe pieces of cloth, which have commonly ſeveral blue or red ſtripes on the edge.

Blue or red cloth. Of this the *Indian* women make their petticoats, which reach only to their knees. They generally chuſe the blue colour.

Shirts and ſhifts of linen. As ſoon as an *Indian* fellow, or one of their women, have put on a ſhirt, they never waſh it, or ſtrip it off, till it is entirely torn in pieces.

Pieces of cloth. Which they wrap round their legs inſtead of ſtockings, like the *Ruſſians.*

Hatchets, knives, ſciſſars, needles, and a ſteel to ſtrike fire with. Theſe inſtruments are now common among the *Indians.* They all take theſe inſtruments from the *Europeans,* and reckon the hatchets and knives much better than thoſe which they formerly made of ſtones and bones. The ſtone hatchets of the ancient *Indians* are very rare in *Canada.*

Kettles of copper or braſs, ſometimes tinned in the inſide. In theſe the *Indians* now boil all their meat, and they have a very great run with them. They formerly made uſe of earthen or wooden pots, into which they poured water, or whatever elſe they wanted to boil, and threw in red hot ſtones to make it boil. They do not want iron boilers, becauſe they cannot be eaſily carried on their continual journies, and would not bear ſuch falls and knocks as their kettles are ſubject to.

Ear-rings of different ſizes, commonly of braſs, and ſometimes of tin. They are worn by both men and women, though the uſe of them is not general.

Vermillion.

Vermillion. With this they paint their face, ſhirt, and ſeveral parts of the body. They formerly made uſe of a reddiſh earth, which is to be found in the country; but as the *Europeans* brought them vermillion, they thought nothing was comparable to it in colour. Many perſons have told me, that they had heard their fathers mention, that the firſt *Frenchmen* who came over here, got a great heap of furs from the *Indians*, for three times as much cinnabar as would ly on the tip of a knife.

Verdigreaſe, to paint their faces green. For the black colour, they make uſe of the ſoot at the bottom of their kettles, and daub their whole face with it.

Looking glaſſes. The *Indians* are very much pleaſed with them, and make uſe of them chiefly when they want to paint themſelves. The men conſtantly carry their looking glaſſes with them on all their journies; but the women do not. The men, upon the whole, are more fond of dreſſing than the women.

Burning glaſſes. Theſe are excellent pieces of furniture in the opinion of the *Indians*; becauſe they ſerve to light the pipe without any trouble, which an indolent *Indian* is very fond of.

Tobacco is bought by the northern *Indians*, in whoſe country it will not grow. The ſouthern *Indians* always plant as much of it as they want for their own conſumption. Tobacco has a great run amongſt the northern *Indians*, and it has been obſerved, that the further they

they live to the northward, the more they ſmoke of tobacco.

Wampum, or, as they are here called, *porcelanes*. They are made of a particular kind of ſhells, and turned into little ſhort cylindrical beads, and ſerve the *Indians* for money and ornament.

Glaſs beads, of a ſmall ſize, and white or other colours. The *Indian* women know how to faſten them in their ribbands, pouches, and cloths.

Braſs and ſteel wire, for ſeveral kinds of work.

Brandy, which the *Indians* value above all other goods that can be brought them; nor have they any thing, though ever ſo dear to them, which they would not give away for this liquor. But, on account of the many irregularities which are cauſed by the uſe of brandy, the ſale of it has been prohibited under ſevere penalties; however, they do not always pay an implicit obedience to this order.

THESE are the chief goods which the *French* carry to the *Indians*, and they have a good run among them.

THE goods which they bring back from the *Indians*, conſiſt entirely in furs. The *French* get them in exchange for their goods, together with all the neceſſary proviſions they want on the journey. The furs are of two kinds; the beſt are the northern ones, and the worſt ſort thoſe from the ſouth.

IN the northern parts of *America* there are chiefly the following ſkins of animals: bears,

beavers, elks *, rein-deer †, wolf-lynxes ‡, and martens. They ſometimes get martens ſkins from the ſouth, but they are red, and good for little. *Pichou du Nord* is perhaps the animal which the *Engliſh*, near *Hudſon*'s bay, call the *wolverene*. To the northern furs belong the bears, which are but few, and foxes, which are not very numerous, and generally black; and ſeveral other ſkins.

The ſkins of the ſouthern parts are chiefly taken from the following animals: wild cattle, ſtags, roebucks, otters, *Pichoux du Sud*, of which P. *Charlevoix* makes mention §, and are probably a ſpecies of cat-lynx, or perhaps a kind of panther; foxes of various kinds, raccoons, cat-lynxes, and ſeveral others.

It is inconceivable what hardſhips the people in *Canada* muſt undergo on their journies. Sometimes they muſt carry their goods a great way by land; frequently they are abuſed by the *Indians*, and ſometimes they are killed by them. They often ſuffer hunger, thirſt, heat, and cold, are bit by gnats, and expoſed to the bites of poiſonous ſnakes, and other dangerous animals and inſects. Theſe deſtroy a great part of the youth in *Canada*, and prevent the people from growing old. By this means, however, they become ſuch brave ſoldiers, and ſo inured to fatigue, that none of them fear dan-

* Originacs.
† Cariboux
‡ Loup cerviers.
§ In his Hiſt. de la Nouv. France, Tom. V. p. 158.

ger

ger or hardſhips. Many of them ſettle among the *Indians* far from *Canada*, marry *Indian* women, and never come back again.

THE prices of the ſkins in *Canada*, in the year 1749, were communicated to me by *M. de Couagne*, a merchant at *Montreal*, with whom I lodged. They were as follow:

GREAT and middle ſized *bear* ſkins, coſt five livres.
SKINS of *young bears*, fifty ſols.
——— *lynxs*, 25 ſols.
——— *pichoux du ſud*, 35 ſols.
——— *foxes* from the ſouthern parts, 35 ſols.
——— *otters*, 5 livres.
——— *raccoons*, 5 livres.
——— *martens*, 45 ſols.
——— *wolf-lynxes* *, 4 livres.
——— *wolves*, 40 ſols.
——— *carcajoux*, an animal which I do not know, 5 livres.
——— *viſons*, a kind of martens, which live in the water, 25 ſols.
RAW ſkins of *elks* †, 10 livres.
——— *ſtags* ‡.
BAD ſkins of *elks* and *ſtags* §, 3 livres.
SKINS of *roebucks*, 25, or 30 ſols.
——— *red foxes*, 3 livres.
——— *beavers*, 3 livres.

* Loups cerviers.
† Originacs verts.
‡ Cerfs verts.
§ Originacs et cerfs paſſés.

I WILL

I WILL now inſert a liſt of all the different kinds of ſkins, which are to be got in *Canada*, and which are ſent from thence to *Europe*. I got it from one of the greateſt merchants in *Montreal*. They are as follow:

Prepared roebuck ſkins, *chevreuils paſſés.*
Unprepared ditto, *chevreuils verts.*
Tanned ditto, *chevreuils tanés.*
Bears, *ours.*
Young bears, *ourſons.*
Otters, *loutres.*
Pecans.
Cats, *chats.*
Wolves, *loup de bois.*
Lynxes, *loups cerviers.*
North pichoux, *pichoux du nord.*
South pichoux, *pichoux du ſud.*
Red foxes, *renards rouges.*
Croſs foxes, *renards croiſés.*
Black foxes, *renards noirs.*
Grey foxes, *renards argentés.*
Southern, or *Virginian* foxes, *renards du ſud où de* Virginie.
White foxes, from *Tadouſſac*, *renards blancs de* Tadouſſac.
Martens, *martres.*
Viſons, or *foutreaux.*
Black ſquirrels, *ecureuils noirs.*
Raw ſtags ſkins, *cerfs verts.*
Prepared ditto, *cerfs paſſés.*
Raw elks ſkins, *originacs verts.*
Prepared ditto, *originacs paſſés.*
Rein-deer ſkins, *cariboux.*

Raw

Raw hind ſkins, *biches verts.*
Prepared ditto, *biches paſſées.*
Carcajous.
Muſk rats, *rats muſques.*
Fat winter beavers, *caſtors gras d'hiver.*
Ditto ſummer beavers, *caſtors gras d'été.*
Dry winter beavers, *caſtors ſecs d'hiver.*
Ditto ſummer beavers, *caſtors ſecs d'été.*
Old winter beavers, *caſtors vieux d'hiver.*
Ditto ſummer beavers, *caſtors vieux d'été.*

To-day, I got a piece of native copper from the *Upper Lake.* They find it there almoſt quite pure; ſo that it does not want melting over again, but is immediately fit for working. Father *Charlevoix* * ſpeaks of it in his Hiſtory of *New-France.* One of the Jeſuits at *Montreal,* who had been at the place where this metal is got, told me, that it is generally found near the mouths of rivers, and that there are pieces of native copper too heavy for a ſingle man to lift up. The *Indians* there ſay, that they formerly found a piece of about ſeven feet long, and near four feet thick, all of pure copper. As it is always found in the ground near the mouths of rivers, it is probable that the ice or water carried it down from a mountain; but, notwithſtanding the careful ſearch that has been made, no place has been found, where the metal lies in any great quantity together.

The head or ſuperior of the prieſts of *Montreal,* gave me a piece of lead-ore to-day. He

* See his Hiſt. de la Nouv. Fr. Tom. VI. p. 415.

ſaid

ſaid it was taken from a place only a few *French* miles from *Montreal*, and it conſiſted of pretty compact, ſhining cubes of lead-ore. I was told by ſeveral perſons here, that furthermore ſouthward in the country, there is a place where they find a great quantity of this lead-ore in the ground. The *Indians* near it, melt it, and make balls and ſhot of it. I got ſome pieces of it likewiſe, conſiſting of a ſhining cubic lead-ore, with narrow ſtripes between it, and of a white hard earth or clay, which effervesces with *aqua fortis*.

I LIKEWISE received a reddiſh brown earth to-day, found near the *Lac de Deux Montagnes*, or *Lake of Two Mountains*, a few *French* miles from *Montreal*. It may be eaſily crumbled into duſt between the fingers. It is very heavy, and more ſo than the earth of that kind generally is. Outwardly, it has a kind of gloſſy appearance, and, when it is handled by the fingers for ſome time, they are quite as it were ſilvered over. It is, therefore, probably, a kind of lead-earth, or an earth mixed with iron-glimmer.

THE ladies in *Canada* are generally of two kinds: ſome come over from *France*, and the reſt natives. The former poſſeſs the politeneſs peculiar to the *French* nation; the latter may be divided into thoſe of *Quebec* and *Montreal*. The firſt of theſe are equal to the *French* ladies in good breeding, having the advantage of frequently converſing with the *French* gentlemen and ladies, who come every ſummer with the king's ſhips, and ſtay ſeveral weeks at *Quebec*, but ſeldom go to *Montreal*. The ladies of this laſt

laſt place are accuſed by the *French* of partaking too much of the pride of the *Indians*, and of being much wanted in *French* good breeding. What I have mentioned above of their dreſſing their head too aſſiduouſly, is the caſe with all the ladies throughout *Canada*. On thoſe days when they pay or receive viſits, they dreſs ſo gayly, that one is almoſt induced to think their parents poſſeſſed the greateſt dignities in the ſtate. The *Frenchmen*, who conſidered things in their true light, complained very much that a great part of the ladies in *Canada* had got into the pernicious cuſtom of taking too much care of their dreſs, and ſquandering all their fortunes, and more, upon it, inſtead of ſparing ſomething for future times. They are no leſs attentive to have the neweſt faſhions; and they laugh at each other, when they are not dreſſed to each other's fancy. But what they get as new faſhions, are grown old, and laid aſide in *France*; for the ſhips coming but once every year from thence, the people in *Canada* conſider that as the new faſhion for the whole year, which the people on board brought with them, or which they impoſed upon them as new. The ladies in *Canada*, and eſpecially at *Montreal*, are very ready to laugh at any blunders ſtrangers make in ſpeaking. In *Canada* nobody ever hears the *French* language ſpoken by any but *Frenchmen*; for ſtrangers ſeldom come thither; and the *Indians* are naturally too proud to learn *French*, but oblige the *French* to learn their language. From hence it naturally follows, that the nice *Canada* ladies cannot hear any thing uncommon

without laughing at it. One of the firſt queſtions they propoſe to a ſtranger is, whether he is married? The next, how he likes the ladies in the country; and whether he thinks them handſomer than thoſe of his own country; And the third, whether he will take one home with him? There are ſome difference between the ladies of *Quebec*, and thoſe of *Montreal*; thoſe of the laſt place ſeemed to be generally handſomer than thoſe of the former. Their behaviour likewiſe ſeemed to me to be ſomewhat too free at *Quebec*, and of a more becoming modeſty at *Montreal*. The ladies at *Quebec*, eſpecially the unmarried ones, are not very induſtrious. A girl of eighteen is reckoned very poorly off, if ſhe cannot enumerate at leaſt twenty lovers. Theſe young ladies, eſpecially thoſe of a higher rank, get up at ſeven, and dreſs till nine, drinking their coffee at the ſame time. When they are dreſſed, they place themſelves near a window that opens into the ſtreet, take up ſome needle-work, and ſew a ſtitch now and then; but turn their eyes into the ſtreet moſt of the time. When a young fellow comes in, whither they are acquainted with him or not, they immediately lay aſide their work, ſit down by him, and begin to chat, laugh, joke, and invent *double-entendres*; and this is reckoned being very witty*. In this manner they frequently paſs the whole day, leaving their mothers to do all the buſineſs in the houſe. In *Montreal*, the girls are not quite ſo volatile, but more induſ-

* *Avoir beaucoup d'eſprit.*

trious,

trious. They are always at their needle-work, or doing ſome neceſſary buſineſs in the houſe. They are likewiſe chearful and content; and nobody can ſay that they want either wit, or charms. Their fault is that they think too well of themſelves. However, the daughters of people of all ranks, without exception, go to market, and carry home what they have bought. They riſe as ſoon, and go to bed as late, as any of the people in the houſe. I have been aſſured, that, in general, their fortunes are not conſiderable; which are rendered ſtill more ſcarce by the number of children, and the ſmall revenues in a houſe. The girls at *Montreal* are very much diſpleaſed that thoſe at *Quebec* get huſbands ſooner than they. The reaſon of this is, that many young gentlemen who come over from *France* with the ſhips, are captivated by the ladies at *Quebec*, and marry them; but as theſe gentlemen ſeldom go up to *Montreal*, the girls there are not often ſo happy as thoſe of the former place.

Sept. 23d. THIS morning I went to *Saut au Recollet*, a place three *French* miles northward of *Montreal*, to deſcribe the plants and minerals there, and chiefly to collect ſeeds of various plants. Near the town there are farms on both ſides of the road; but as one advances farther on, the country grows woody, and varies in regard to height. It is generally very ſtrong; and there are both pieces of rock-ſtone, and a kind of grey lime-ſtone. The roads are bad and almoſt impaſſable for chaiſes. A little before I

arrived at *Saut au Recollet*, the woods end, and the country is turned into corn-fields, meadows, and paſtures.

About a *French* mile from the town are two lime-kilns on the road. They are built of a grey lime-ſtone, burnt hard, and of pieces of rock-ſtone, towards the fire. The height of the kiln from top to bottom is ſeven yards.

The lime-ſtone which they burn here, is of two kinds. One is quite black, and ſo compact, that its conſtituent particles cannot be diſtinguiſhed, ſome diſperſed grains of white and pale grey ſpar excepted. Now and then there are thin cracks in it filled with a white ſmall-grained ſpar.

I have never ſeen any petrifactions in this ſtone, though I looked very carefully for them. This ſtone is common on the iſle of *Montreal*, about ten or twenty inches below the upper ſoil. It lies in ſtrata of five or ten inches thickneſs. This ſtone is ſaid to give the beſt lime; for, though it is not ſo white as that of the following grey lime-ſtone, yet it makes better mortar, and almoſt turns into ſtone, growing harder and more compact every day. There are examples, that when they have been about to repair a houſe made partly of this mortar, the other ſtones of which the houſe conſiſts, ſooner broke in pieces than the mortar itſelf.

The other kind is a grey, and ſometimes a dark grey lime-ſtone, conſiſting of a compact calcareous-ſtone, mixed with grains of ſpar, of the ſame colour. It is full of petrified ſtriated

ſhells

ſhells or pectinites. The greateſt part of theſe petrifactions are, however, only impreſſions of the hollow ſide of the ſhells. Now and then I found likewiſe petrified pieces of the ſhell itſelf, though I could never find the ſame ſhells in their natural ſtate on the ſhores; and it ſeems inconceivable how ſuch a quantity of impreſſions could come together, as I ſhall preſently mention.

I HAVE had great pieces of this lime-ſtone, conſiſting of little elſe than pectinites, lying cloſe to one another. This lime-ſtone is found on ſeveral parts of the iſle, where it lies in horizontal ſtrata of the thickneſs of five or ten inches. This ſtone yields a great quantity of white lime, but it is not ſo good as the former, becauſe it grows damp in wet weather.

FIR-WOOD is reckoned the beſt for the lime-kilns and the thuya wood next to it. The wood of the ſugar-maple, and other trees of a ſimilar nature, are not fit for it, becauſe they leave a great quantity of coals.

GREY pieces of rock-ſtone are to be ſeen in the woods and fields hereabouts.

THE leaves of ſeveral trees and plants began now to get a pale hue; eſpecially thoſe of the red maple, the ſmooth ſumach*, the *Polygonum ſagittatum*, LINN. and ſeveral of the ferns.

A GREAT croſs is erected on the road, and the boy who ſhewed me the wood, told me that a perſon was buried there, who had wrought great miracles.

* *Rhus glabrum*, Linn.

At noon I arrived at *Saut au Recollet*, which is a little place, ſituated on a branch of the river *St Lawrence*, which flows with a violent current between the iſles of *Montreal* and *Jeſus*. It has got its name from an accident which happened to a recollet friar, called *Nicholas Veil*, in the year 1625. He went into a boat with a converted *Indian*, and ſome *Indians* of the nation of *Hurons*, in order to go to *Quebec*; but, on going over this place in the river, the boat overſet, and both the friar and his proſelyte were drowned. The *Indians* (who have been ſuſpected of occaſioning the overſetting of the boat) ſwam to the ſhore, ſaved what they could of the friar's effects, and kept them.

The country hereabouts is full of ſtones, and they have but lately began to cultivate it; for all the old people could remember the places covered with tall woods, which are now turned into corn-fields, meadows, and paſtures. The prieſts ſay, that this place was formerly inhabited by ſome converted *Hurons*. Theſe *Indians* lived on a high mountain, at a little diſtance from *Montreal*, when the *French* firſt arrived here, and the latter perſuaded them to ſell that land. They did ſo, and ſettled here at *Saut au Recollet*, and the church which ſtill remains here, was built for them, and they have attended divine ſervice in it for many years. As the *French* began to increaſe on the iſle of *Montreal*, they wiſhed to have it entirely to themſelves, and perſuaded the *Indians* again to ſell them this ſpot, and go to another. The *French* have ſince prevailed upon the *Indians* (whom they did not

not like to have amongſt them, becauſe of their drunkenneſs, and rambling idle life) to leave this place again, and go to ſettle at the lake *des Deux Montagnes*, where they are at preſent, and have a fine church of ſtone. Their church at *Saut au Recollet* is of wood, looks very old and ruinous, though its inſide is pretty good, and is made uſe of by the *Frenchmen* in this place. They have already brought a quantity of ſtones hither, and intend building a new church very ſoon.

THOUGH there had been no rain for ſome days paſt, yet the moiſture in the air was ſo great, that as I ſpread ſome papers on the ground this afternoon, in a ſhady place, intending to put the ſeeds I collected into them, they were ſo wet in a few minutes time, as to be rendered quite uſeleſs. The whole ſky was very clear and bright, and the heat as intolerable as in the middle of *July*.

ONE half of the corn-fields are left fallow alternately. The fallow-grounds are never ploughed in ſummer; ſo the cattle can feed upon the weeds that grow on them. All the corn made uſe of here is ſummer corn, as I have before obſerved. Some plough the fallow-grounds late in autumn; others defer that buſineſs till ſpring; but the firſt way is ſaid to give a much better crop. Wheat, barley, rye, and oats, are harrowed, but peaſe are ploughed under ground. They ſow commonly about the 15th of *April*, and begin with the peaſe. Among the many kinds of peaſe which are to be got here, they prefer the green ones to all others for ſowing. They

require a high, dry, poor ground, mixed with coarſe ſand. The harveſt time commences about the end, and ſometimes in the middle of *Auguſt*. Wheat returns generally fifteen, and ſometimes twenty fold; oats from fifteen to thirty fold. The crop of peaſe is ſometimes forty fold, but at other times only ten fold; for they are very different. The plough and harrow are the only inſtruments of huſbandry they have, and thoſe none of the beſt ſort neither. The manure is carried upon the fallow grounds in ſpring. The ſoil conſiſts of a grey ſtony earth, mixed with clay and ſand. They ſow no more barley than is neceſſary for the cattle; for they make no malt here. They ſow a good deal of oats, but merely for the horſes, and other cattle. Nobody knows here how to make uſe of the leaves of deciduous trees as a food for the cattle, though the foreſts are furniſhed with no other than trees of that kind, and though the people are commonly forced to feed their cattle at home during five months.

I HAVE already repeatedly mentioned, that almoſt all the wheat which is ſown in *Canada* is ſummer wheat, that is ſuch as is ſown in ſpring. Near *Quebec* it ſometimes happens, when the ſummer is leſs warm, or the ſpring later than common, that a great part of the wheat does not ripen perfectly before the cold commences. I have been aſſured that ſome people, who live on the *Iſle de Jeſus*, ſow wheat in autumn, which is better, finer, and gives a more plentiful crop than the ſummer wheat; but

but it does not ripen above a week before the other wheat.

Sept. 25th. In ſeveral places hereabouts, they encloſe the field with a ſtone fence, inſtead of wooden pales. The plenty of ſtones which are to be got here render the harbour very trifling.

Here are abundance of beech-trees in the woods, and they now had ripe ſeeds. The people in *Canada* collect them in autumn, dry them, and keep them till winter, when they eat them inſtead of walnuts and hazel-nuts; and I am told they taſte very well.

There is a ſalt ſpring, as the prieſt of this place informed me, ſeven *French* miles from hence, near the river *d'Aſſomption*; of which during the war, they have made a fine white ſalt. The water is ſaid to be very briny.

Some kinds of fruit-trees ſucceed very well near *Montreal*, and I had here an opportunity of ſeeing ſome very fine pears and apples of various ſorts. Near *Quebec* the pear-trees will not ſucceed, becauſe the winter is too ſevere for them; and ſometimes they are killed by the froſt in the neighbourhood of *Montreal*. Plum-trees, of ſeveral ſorts, were firſt brought over from *France*, ſucceed very well, and withſtand the rigours of winter. Three ſorts of *America* walnut-trees grow in the woods; but the walnut-trees brought over from *France* die almoſt every year down to the very root, bringing forth new ſhoots in ſpring. Peach-trees cannot well agree with this climate; a few bear the cold, but, for greater ſafety, they are obliged to put ſtraw round them.

Cheſnut-

Cheſnut-trees, mulberry-trees, and the like, have never yet been planted in *Canada*.

The whole cultivated part of *Canada* has been given away by the king to the clergy, and ſome noblemen; but all the uncultivated parts belong to him, as likewiſe the place on which *Quebec* and *Trois Rivieres* are built. The ground on which the town of *Montreal* is built, together with the whole iſle of that name, belongs to the prieſts of the order of *St. Sulpicius*, who live at *Montreal*. They have given the land in tenure to farmers and others who were willing to ſettle on it. The firſt ſettlers paid a trifling rent for their land; for frequently the whole leaſe for a piece of ground, three *arpens* broad, and thirty long, conſiſt in a couple of chickens; and ſome pay twenty, thirty, or forty ſols, for a piece of land of the ſame ſize. But thoſe who came latter, muſt pay near two *ecus* (crowns) for ſuch a piece of land, and thus the land-rent is very unequal throughout the country. The revenues of the biſhop of *Canada* do not ariſe from any landed property. The churches are built at the expence of the congregations. The inhabitants of *Canada* do not yet pay any taxes to the king; and he has no other revenues from it, than thoſe which ariſe from the cuſtom-houſe.

The prieſts of *Montreal* have a mill here, where they take the fourth part of all that is ground. However, the miller receives a third part of this ſhare. In other places he gets the half of it. The prieſts ſometimes leaſe the mill for a certain ſum. Beſides them nobody is allowed to erect a mill on the iſle of *Montreal*,

they having reſerved that right to themſelves. In the agreement drawn up between the prieſts and the inhabitants of the iſle, the latter are obliged to get all their corn ground in the mills of the former.

THEY boil a good deal of ſugar in *Canada* of the juice running out of the inciſions in the ſugar-maple, the red maple, and the ſugar-birch; but that of the firſt tree is moſt commonly made uſe of. The way of preparing it has been more minutely deſcribed by me in the Memoirs of the Royal *Swediſh* Academy of Sciences *.

Sept. 26th. EARLY this morning I returned to *Montreal.* Every thing began now to look like autumn. The leaves of the trees were pale or reddiſh, and moſt of the plants had loſt their flowers. Thoſe which ſtill preſerved them were the following †:

Several ſorts of aſters, both blue and white.
Golden rods of various kinds.
Common milfoil.
Common ſelf-heal.
The criſped thiſtle.
The biennial oenothera.
The rough-leaved ſun-flower, with trifoliated leaves.
The *Canada* violet,
A ſpecies of gentian.

* See the Volume for 1751.

† *Aſteres. Solidagines. Achillea millefolium. Prunella vulgaris. Carduus criſpus. Oenothera biennis. Rudbeckia iriloba. Viola Canadenſis. Gentiana Saponaria.*

WILD

WILD vines are abundant in the woods hereabouts, climbing up very high trees.

I HAVE made enquiry among the *French*, who travel far into the country, concerning the food of the *Indians*. Thoſe who live far north, I am told, cannot plant any thing, on account of the great degree of cold. They have, therefore, no bread, and do not live on vegetables; fleſh and fiſh is their only food, and chiefly the fleſh of beavers, bears, rein-deer, elks, hares, and ſeveral kinds of birds. Thoſe *Indians* who live far ſouthward eat the following things. Of vegetables they plant maize, wild kidney-beans * of ſeveral kinds, pumpions of different ſorts, *ſquaſhes*, a kind of gourds, water-melons and melons †. They likewiſe eat various fruits which grow in their woods. Fiſh and fleſh make a very great part of their food. And they chiefly like the fleſh of wild cattle, roe-bucks, ſtags, bears, beavers, and ſome other quadrupeds. Among their dainty diſhes, they reckon the *water-taregraſs* ‡, which the *French* call *folle avoine*, and which grows in plenty in their lakes, in ſtagnant waters, and ſometimes in rivers which flow ſlowly. They gather its ſeeds in *October*, and prepare them in different ways, and chiefly as groats, which take almoſt as well as rice. They make likewiſe many a delicious meal of the ſeveral kinds of walnuts, cheſnuts, mulberries, *aci-*

* *Phaſeoli.*
† *Cucumis melo.* Linn.
‡ *Zizania aquatica.* Linn.

mine

mine *, chinquapins †, hazel-nuts, peaches, wild prunes, grapes, whortle-berries of ſeveral ſorts, various kinds of medlars, black-berries, and other fruit and roots. But the ſpecies of corn, ſo common in what is called the old world, were entirely unknown here before the arrival of the *Europeans*; nor do the *Indians* at preſent ever attempt to cultivate them, though they ſee the uſe which the *Europeans* make of the culture of them, and though they are fond of eating the diſhes which are prepared of them.

Sept. 27th. BEAVERS are abundant all over *North-America*, and they are one of the chief articles of the trade in *Canada*. The *Indians* live upon their fleſh during a great part of the year. It is certain that theſe animals multiply very faſt; but it is no leſs ſo, that vaſt numbers of them are annually killed, and that the *Indians* are obliged at preſent to undertake diſtant journies, in order to catch or ſhoot them. Their decreaſing in number is very eaſily accounted for; becauſe the *Indians*, before the arrival of the *Europeans*, only caught as many as they found neceſſary to clothe themſelves with, there being then no trade with the ſkins. At preſent a number of ſhips go annually to *Europe*, laden chiefly with beavers ſkins; the *Engliſh* and *French* endeavour to out-do each other, by paying the *Indians* well for them, and this encourages the latter to extirpate theſe animals. Many people in *Canada* told me, that when they were young,

* *Annona muricata.* Linn.
† *Fagus pumila.* Linn.

all

all the rivers in the neighbourhood of *Montreal*, the river *St. Lawrence* not excepted, were full of beavers and their dykes; but at preſent they are extirpated in that quarter.

BEAVER-FLESH is eaten not only by the *Indians*, but likewiſe by the *Europeans*, and eſpecially the *French*, on their faſting days; for his holineſs, in his ſyſtem, has ranged the beaver among the fiſh. The fleſh is reckoned beſt, if the beaver has lived upon vegetables, ſuch as the aſp, and the beaver-tree *; but when he has eaten fiſh, it does not taſte well. To-day I taſted this fleſh boiled, for the firſt time; and tho' every body preſent, beſides myſelf, thought it a delicious diſh, yet I could not agree with them. I think it is eatable, but has nothing delicious. It looks black when boiled, and has a peculiar taſte. In order to prepare it well, it muſt be boiled in ſeveral waters from morning till noon, that it may looſe the bad taſte it has. The tail is likewiſe eaten, after it has been boiled in the ſame manner, and roaſted afterwards; but it conſiſts of fat only, though they would not call it ſo; and cannot be ſwallowed by one who is not uſed to eat it. Sometimes, though but ſeldom, they catch beavers with white hair.

WINE is almoſt the only liquor which people above the vulgar are uſed to drink. They make a kind of ſpruce-beer of the top of the white-fir †, which they drink in ſummer; but the

* *Magnolia glauca.* Linn.

† *Apinette blanche.* The way of brewing this beer is deſcribed at large in the Memoirs of the Royal Academy of Sciences, for the year 1751, p. 190.

uſe

uſe of it is not general; and it is ſeldom drank by people of quality. Thus great ſums go annually out of the country for wine; as they have no vines here of which they could make a liquor that is fit to be drank. The common people drink water; for it is not yet cuſtomary here to brew beer of malt; and there are no orchards large enough to ſupply the people with apples for making cyder. Some of the people of rank, who poſſeſs large orchards, ſometimes, out of curioſity, get a ſmall quantity of cyder made. The great people here, who are uſed from their youth to drink nothing but wine, are greatly at a loſs in time of war; when all the ſhips which brought wine are intercepted by the *Engliſh* privateers. Towards the end of the laſt war, they gave two hundred and fifty *Francs*, and even one hundred *Ecus*, for a *barrique*, or hogſhead, of wine.

A MIDDLING horſe now coſts forty *Francs* * and upwards; a good horſe is valued at an hundred *Francs*, or more. A cow is ſold for fifty *Francs*; but people can remember the time when they were ſold for ten *Ecus* †. A ſheep coſts five or ſix livres at preſent; but laſt year, when every thing was dear, it coſt eight or ten *Francs*. A hog of one year old, and two hundred, or an hundred and fifty pounds weight, is ſold at fifteen *Francs*. M. *Couagne*, the merchant, told me, that he had ſeen a hog of four hundred weight among the *Indians*. A chicken

* *Franc* is the ſame as *Livre*; and twenty-two *Livres* make a pound ſterling.

† An *Ecu* is three *Francs*.

is

is ſold for ten or twelve *Sols* *; and a turkey for twenty *Sols*. A *Minot* ‡ of wheat ſold for an *Ecu* laſt year; but at preſent it coſt forty *Sols*. Maize is always of the ſame price with wheat, becauſe here is but little of it; and it is all made uſe of by thoſe who go to trade with the *Indians*. A *Minot* of oats coſts ſometimes from fifteen to twenty *Sols*; but of late years it has been ſold for twenty-ſix, or thirty *Sols*. Peaſe bear always the ſame price with wheat. A pound of butter coſts commonly about eight or ten *Sols*; but laſt year it roſe up to ſixteen *Sols*. A dozen of eggs uſed to coſt but three *Sols*; however, now are ſold for five. They make no cheeſe at *Montreal*; nor is there any to be had, except what is got from abroad. A water-melon generally coſts five or ſix *Sols*; but, if of a large ſize, from fifteen to twenty.

THERE are as yet no manufactures eſtabliſhed in *Canada*; probably, becauſe *France* will not loſe the advantage of ſelling off its own goods here. However, both the inhabitants of *Canada*, and the *Indians*, are very ill off for want of them, in times of war.

THOSE perſons who want to be married, muſt have the conſent of their parents. However, the judge may give them leave to marry, if the parents oppoſe their union without any valid reaſon. Likewiſe, if the man be thirty years of age, and the woman twenty-ſix, they may mar-

* Twenty *Sols* make one *Livre*.

‡ A *French* meaſure, about the ſame as two buſhels in *England*.

ry,

ry, without farther waiting for their parents conſent.

Sept. 29th. THIS afternoon I went out of town, to the ſouth-weſt part of the iſle, in order to view the country, and the œconomy of the people, and to collect ſeveral ſeeds. Juſt before the town are ſome fine fields, which were formerly cultivated, but now ſerve as paſtures. To the north-weſt appears the high mountain which lies weſtward of *Montreal*, and is very fertile, and covered with fields and gardensfrom the bottom to the ſummit. On the ſouth-eaſt ſide is the river *St. Lawrence*, which is very broad here; and on its ſides are extenſive corn-fields and meadows, and fine houſes of ſtone, which look white at a diſtance. At a great diſtance ſouth-eaſtward, appear the two high mountains near fort *Chamblais*, and ſome others near lake *Champlain*, raiſing their tops above the woods. All the fields hereabouts are filled with ſtones of different ſizes; and among them there is frequently ſeen a black lime-ſtone. About a *French* mile from the town, the high road goes along the river, which is on the left-hand; and on the right-hand all the country is cultivated and inhabited. The farm-houſes are three, four, or five arpents diſtant from each other. The hills near the river are generally high and pretty ſteep; they conſiſt of earth; and the fields below them are filled with pieces of rock-ſtone, and of black lime-ſlate. About two *French* miles from *Montreal*, the river runs very rapidly, and is full of ſtones; in ſome places there are ſome

waves. However, thoſe who go in boats into the ſouthern parts of *Canada*, are obliged to work through ſuch places.

WILD-GEESE and ducks, began to migrate in great flocks to the ſouthern countries.

Oct. 2d. THE two preceding days, and this, I employed chiefly in collecting ſeeds.

THE laſt night's froſt had cauſed a great alteration in ſeveral trees. Walnut-trees of all ſorts ſhed their leaves in plenty now. The flowers of a kind of nettle * were all entirely killed by the froſt. The leaves of the *American* lime-tree were likewiſe damaged. In the kitchen-gardens the leaves of the melons were all killed by the froſt. However, the beech, oak, and birch, did not ſeem to have ſuffered at all. The fields were all covered with a hoar-froſt. The ice in the pools of water was a geometrical line and a half in thickneſs.

THE biennial oenothera † grows in abundance on open woody hills, and fallow fields. An old *Frenchman*, who accompanied me as I was collecting its ſeeds, could not ſufficiently praiſe its property of healing wounds. The leaves of the plant muſt be cruſhed, and then laid on the wound.

Sœurs de Congregation are a kind of religious women, different from nuns. They do not live in a convent, but have houſes both in the town and country. They go where they pleaſe,

* *Urtica divaricata.* Linn.

† *Oenothera biennis.* Linn.

and

and are even allowed to marry, if an opportunity offers; but this, I am told, happens very ſeldom. In many places in the country, there are two or more of them: they have their houſe commonly near a church, and generally the parſonage houſe is on the other ſide of the church. Their buſineſs is to inſtruct young girls in the Chriſtian religion, to teach them reading, writing, needle-work, and other female accompliſhments. People of fortune board their daughters with them for ſome time. They have their boarding, lodging, beds, inſtruction, and whatever elſe they want, upon very reaſonable terms. The houſe where the whole community of theſe ladies live, and from whence they are ſent out into the country, is at *Montreal*. A lady that wants to become incorporated among them, muſt pay a conſiderable ſum of money towards the common ſtock; and ſome people reckon it to be four thouſand livres. If a perſon be once received, ſhe is ſure of a ſubſiſtence during her life-time.

La Chine is a fine village, three *French* miles to the ſouth-eaſt of *Montreal*, but on the ſame iſle, cloſe to the river *St. Lawrence*. The farm-houſes ly along the river-ſide, about four or five *arpents* from each other. Here is a fine church of ſtone, with a ſmall ſteeple; and the whole place has a very agreeable ſituation. Its name is ſaid to have had the following origin. As the unfortunate M. *Salée* was here, who was afterwards murdered by his own country-men further up in the country, he was very intent upon diſcovering a ſhorter road to *China*, by

means of the river *St. Lawrence.* He talked of nothing at that time but his new ſhort way to *China.* But as his project of undertaking this journey, in order to make this diſcovery, was ſtopped by an accident which happened to him here, and he did not that time come any nearer *China,* this place got its name, as it were, by way of joke.

This evening I returned to *Montreal.*

Oct. 5th. The governor-general at *Quebec* is, as I have already mentioned before, the chief commander in *Canada.* Next to him is the intendant at *Quebec*; then follows the governor of *Montreal,* and after him the governor of *Trois Rivieres.* The intendant has the greateſt power next to the governor-general; he pays all the money of government, and is preſident of the board of finances, and of the court of juſtice in this country. He is, however, under the governor-general, for if he refuſes to do any thing to which he ſeems obliged by his office, the governor-general can give him orders to do it, which he muſt obey. He is allowed, however, to appeal to the government in *France.* In each of the capital towns, the governor is the higheſt perſon, then the lieutenant-general, next to him a major, and after him the captains. The governor-general gives the firſt orders in all matters of conſequence. When he comes to *Trois Rivieres* and *Montreal,* the power of the governor ceaſes, becauſe he always commands where he is. The governor-general commonly goes to *Montreal* once every year, and moſtly in winter; and

during his abſence from *Quebec*, the lieutenant-general commands there. When the governor-general dies, or go to *France*, before a new one is come in his ſtead, the governor of *Montreal* goes to *Quebec*, to command in the mean while, leaving the major to command at *Montreal*.

One or two of the king's ſhips are annually ſent from *France* to *Canada*, carrying recruits to ſupply the places of thoſe ſoldiers, who either died in the ſervice, or have got leave to ſettle in the country, and turn farmers, or to return to *France*. Almoſt every year they ſend a hundred, or a hundred and fifty people over in this manner. With theſe people they likewiſe ſend over a great number of perſons, who have been found guilty of ſmuggling in *France*. They were formerly condemned to the gallies, but at preſent they ſend them to the colonies, where they are free as ſoon as they arrive, and can chooſe what manner of life they pleaſe, but are never allowed to go out of the country, without the king's ſpecial licence. The king's ſhips likewiſe bring a great quantity of merchandizes which the king has bought, in order to be diſtributed among the *Indians* on certain occaſions. The inhabitants of *Canada* pay very little to the king. In the year 1748, a begining was, however, made, by laying a duty of three *per cent.* on all *French* goods imported by the merchants of *Canada*. A regulation was likewiſe made at that time, that all the furs and ſkins exported to *France* from hence, ſhould pay a certain duty; but what is carried to the colonies pays nothing. The merchants of all parts of

France and its colonies, are allowed to ſend ſhips with goods to this place; and the *Quebec* merchants are at liberty likewiſe to ſend their goods to any place in *France*, and its colonies. But the merchants at *Quebec* have but few ſhips, becauſe the ſailors wages are very high. The towns in *France* which chiefly trade with *Canada*, are *Rochelle* and *Bourdeaux*; next to them are *Marſeilles*, *Nantes*, *Havre de Grace*, *St. Malo*, and others. The king's ſhips which bring goods to this country, come either from *Breſt* or from *Rochefort*. The merchants at *Quebec* ſend flour, wheat, peaſe, wooden utenſils, *&c.* on their own bottoms, to the *French* poſſeſſions in the *Weſt-Indies*. The walls round *Montreal* were built in 1738, at the king's expence, on condition the inhabitants ſhould, little by little, pay off the coſt to the king. The town at preſent pays annually 6000 *livres* for them to government, of which 2000 are given by the ſeminary of prieſts. At *Quebec* the walls have likewiſe been built at the king's expence, but he did not redemand the expence of the inhabitants, becauſe they had already the duty upon goods to pay as above mentioned. The beaver-trade belongs ſolely to the *Indian* company in *France*, and nobody is allowed to carry it on here, beſides the people appointed by that company. Every other fur trade is open to every body. There are ſeveral places among the *Indians* far in the country, where the *French* have ſtores of their goods; and theſe places they call *les poſtes*. The king has no other fortreſſes in *Canada* than *Quebec*, *Fort Chamblais*, *Fort St. Jean*, *Fort St.*

St. Frederic, or *Crownpoint*, *Montreal*, *Frontenac*, and *Niagara*. All other places belong to private perſons. The king keeps the *Niagara* trade all to himſelf. Every one who intends to go to trade with the *Indians* muſt have a licence from the governor-general, for which he muſt pay a ſum according as the place he is going to is more or leſs advantageous for trade. A merchant who ſends out a boat laden with all ſorts of goods, and four or five perſons with it, is obliged to give five or ſix hundred livres for the permiſſion; and there are places for which they give a thouſand livres. Sometimes one cannot buy the licence to go to a certain trading place, becauſe the governor-general has granted, or intends to grant it to ſome acquaintance or relation of his. The money ariſing from the granting of licences, belongs to the governor-general.

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